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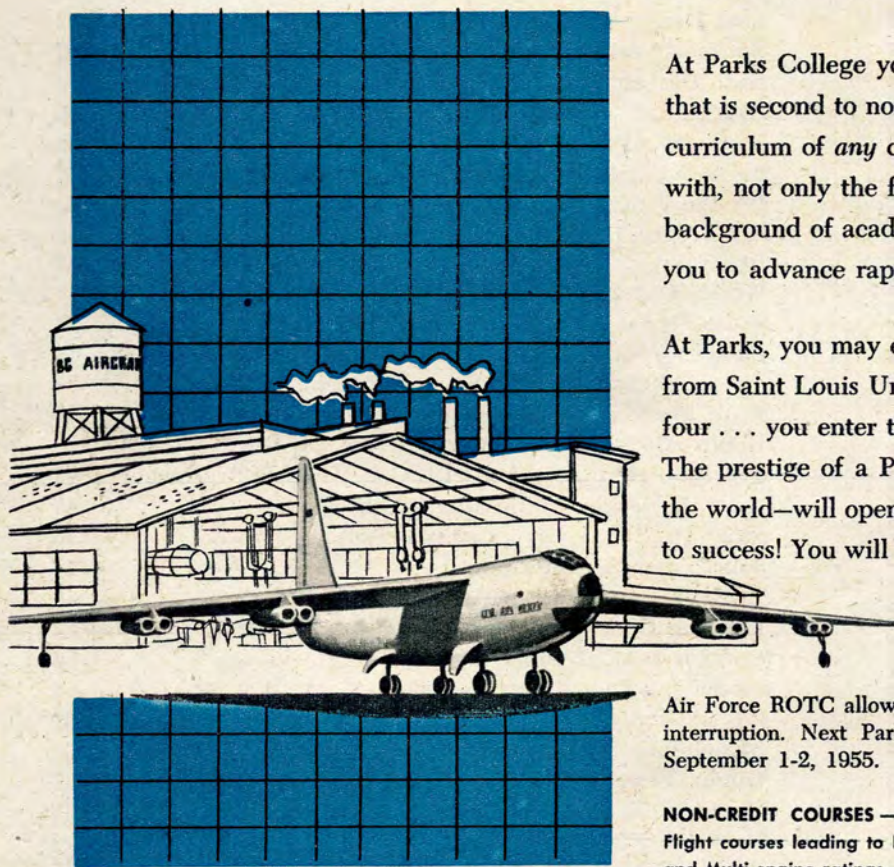
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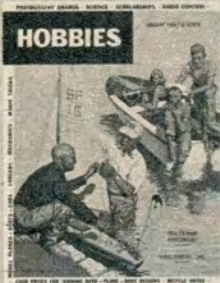
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This month's cover by Harold Stevenson appears to be a "grass is always greener" proposition. When those model sailboaters were youngsters what they would have given for an outboard speedster of their own! And to those who have the outboard—well, miniature sailing boats are sure fascinating. Yup, the water's always greener yonder!

HOBBIES

FOR YOUNG MEN

Editor.....Albert L. Lewis

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Editorial Offices Located at 304 E. 45th Street, New York 17, N. Y.



Intrepid pilot of the stuntin' Jamboree is good friend of Col. Bourgeois. .pg. 42



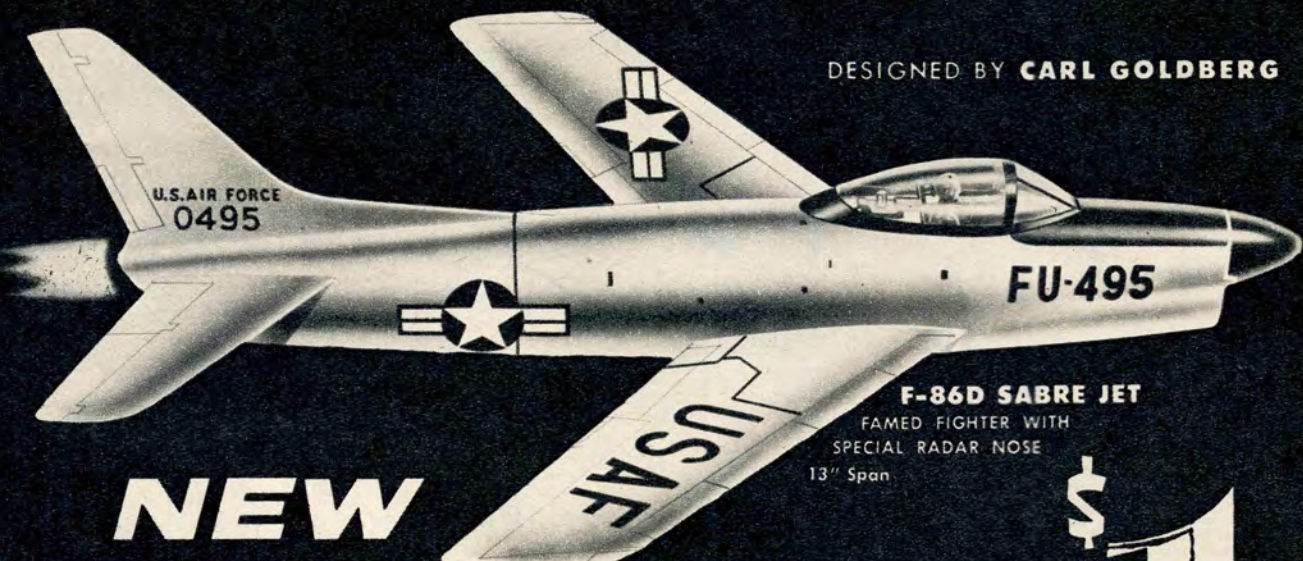
If you're a high schooler and can click a shutter, check cash awards. .pg. 34



Can you put yourself in this picture by Geophysical Service, Inc? See pg. 20

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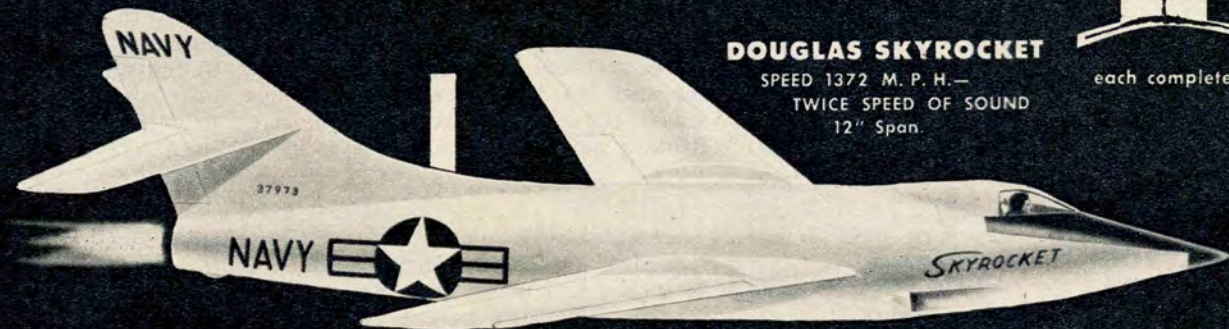
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GROUP ATA 542—"Little Freak" #27 by Dale Root—"XF-92A" by Frank Lashek

GROUP ATA 543—"A-Pay" by Frank Ehling—"Republic" P-47 Thunderbolt by Walter Musciano

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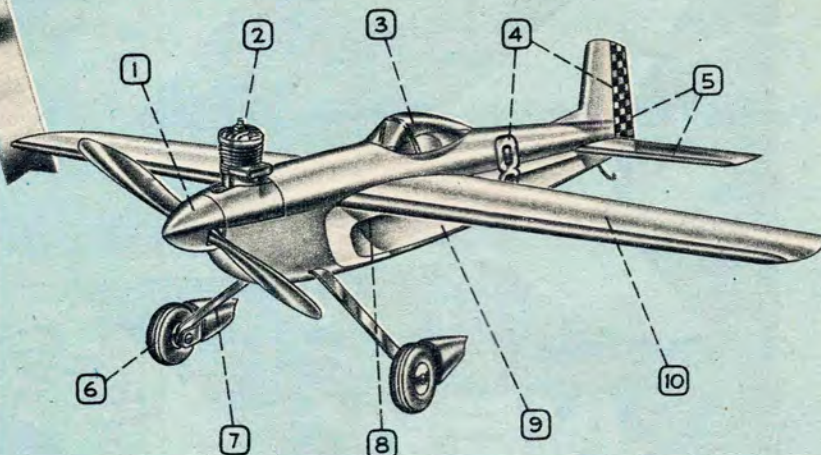
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Life-like "Bambino"

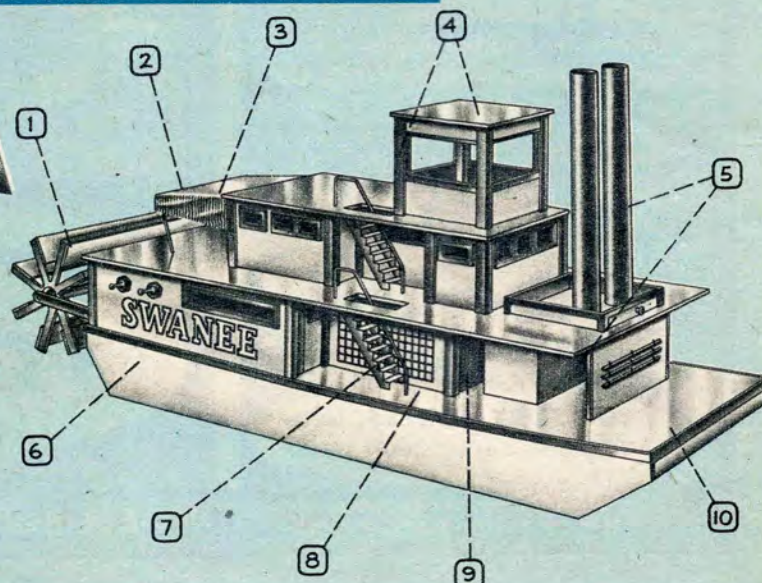


Produced in kit form by the Monarch Model Aircraft Co., the control-line "Bambino" has a wingspan of two feet and sells for \$3.95. Features include: 1) plastic spinner and backplate; 2) .09-.15 cu. in. displ. engines recommended; 3) formed clear plastic canopy; 4) decal numerals and checkerboard trim; 5) die-cut balsa tail group parts; 6) metal-bushed rubber wheels; 7) ready-made, drilled, steel gear struts; 8) control system parts supplied; 9) two-piece balsa fuselage, fully shaped and hollowed; 10) specially pre-shaped balsa wings with pine stub-spar. Brother plane to "Good News" and "Vitamin A/2."

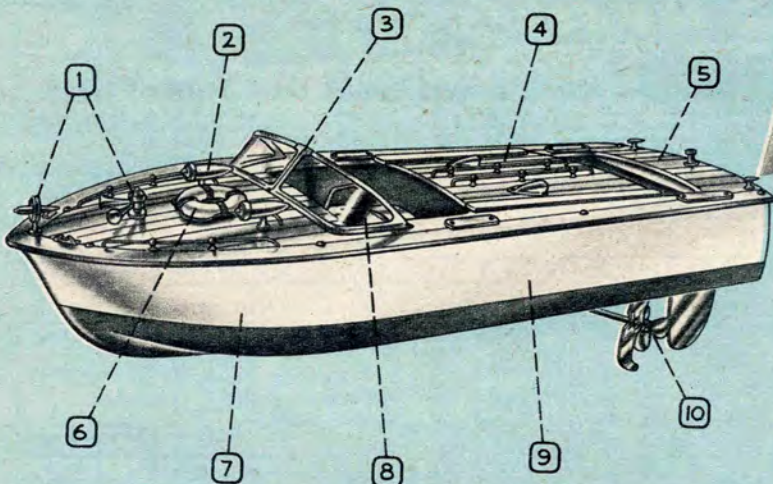
An unusual boat model designed for radio control operation is "Swanee" by Radio Control Models. With an overall length of 28 inches and beam of 9 inches, the kit sells for \$9.50. Noteworthy points: 1) die-cut "Tekwood" spoke wheels, mahogany paddle blades; 2) cast sprockets and bead chain drive; 3) cloth canopy, wire frame; 4) grooved mahogany corner posts, die-cut Tekwood panels; 5) tubular cardboard smoke stacks and boilers; 6) 3 V.-6 V. miniature electric motor (not included), recommended power; 7) die-cut mahogany stairways; 8) deck panels; 9) R/C area; 10) die-cut cabin, hull sides.



"Swanee" Boat



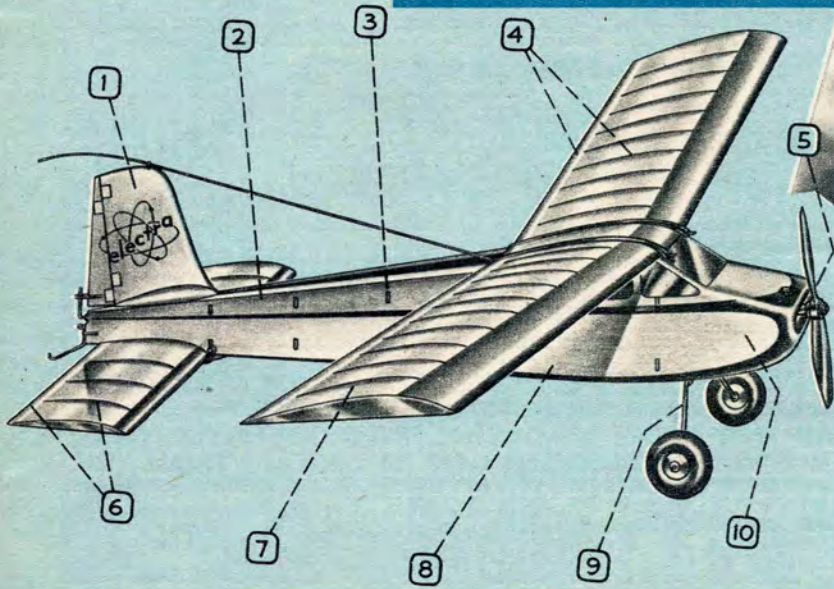
"Sea Wolf" Boat



Completely finished, ready to run (except for batteries) is K&O Models' Fleet Line 15-inch "Sea Wolf" with a beam of 5½ inches. Price is \$8.95. Note: 1) nickel plated bow ornament, horn, rail posts, etc.; 2) miniature electric lights with separate toggle switch in cockpit; 3) clear plastic windshield, plated metal frame; 4) removable access hatch; 5) mahogany-finished wood deck; 6) scale life preserver; 7) molded plastic hull, two-color paint; 8) miniature electric motor with flexible coupling and switch; 9) battery terminals ready wired for motor, lights; 10) complete nickel plated rudder, shaft, propeller, etc.

Kitted by Jasco for \$4.50, this radio control plane has a span of 45 inches and a wing area of 300 sq. inches. Features include: 1) die-cut balsa fin, rudder; 2) die-cut balsa sides; 3) die-cut balsa formers, doublers, etc.; 4) shaped trailing edges, die-cut ribs, etc.; 5) .049-.099 cu. in. displ. engines recommended; 6) die-cut balsa stabilizer ribs, shaped trailing edges, etc.; 7) Silk-span covering material supplied; 8) detailed installation for three types of radio receivers; 9) rubber-loaded, formed steel recoiling landing gear; 10) die-cut plywood firewall. Concern bills the design as "ideal for beginners."

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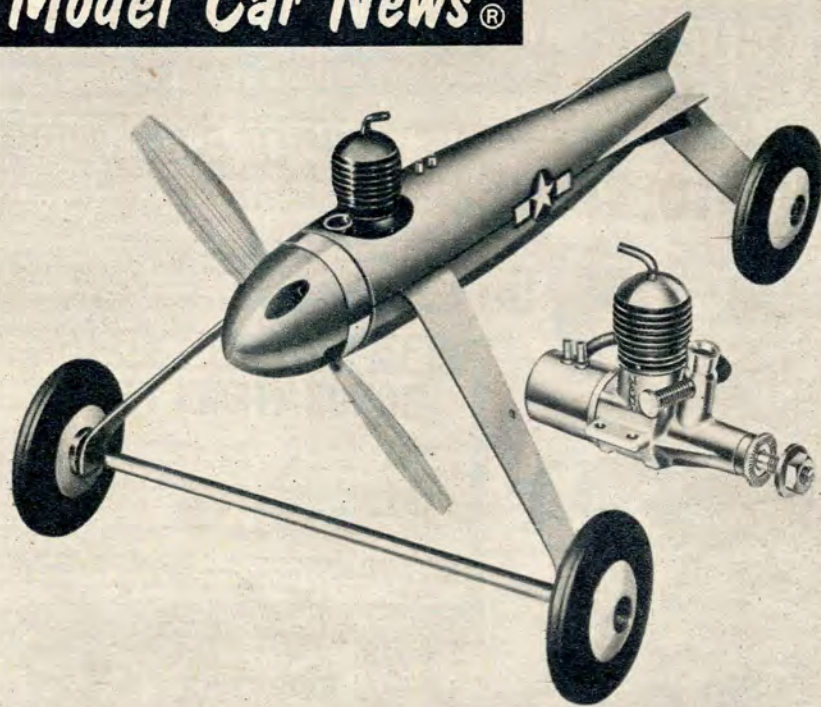
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■ This is your old friend "Round the Track" under a new name. Why change the old name? Well... it seems the Editor kept getting requests for a "tip on the 5th race at Belmont," or the like, so he decided the only way to stop such nonsense was to change to a name that couldn't possibly be construed with horse races.

What do you think of the rakish little car depicted here? This air-driven speedster might be considered a logical outcome of all such cars the California boys have been having so much fun with, and it comes from a manufacturer right out there in the midst of them. A product of McCoy Products Co. (Culver City), this guided missile on wheels is called the "Nike," after the Air Force missile. The car is doubly interesting, since it is powered by a new McCoy .049 diesel engine. The Nike has an all-metal body with cast-in vertical and horizontal stabilizers. The trike running gear has two wheels in the front so that you'll have a more stable platform for starting the engine; similarly, the front wheels hold the car from overturning because of torque.

The car is colored blue, and the plastic prop hub is bright red. Rubber-tired wheels, prop, bridle and pylon are all included in the kit. McCoy's President, Charlie Miller, claims the big advantage of the Nike is that you do not have to have a flying field or special track to run it, most any level surface will do, and you can get speeds from 10-50 mph—indoors or out.

The engine is very similar to the popular McCoy .049 diesel which has been on the market for some time, but the new model has provision for beam mount, a tank is included, and there are internal improvements to make it a top performer.

Model Race Car Olympics. This was the name given to the races held at Fox

Speedway in Bethlehem, Pa. The turnout was wonderful. Almost as soon as racing started, Billy Bissman turned in a 149.50 speed—the highest made at the Fox Speedway track since it was opened a year ago. Paul Schlosser of Washington tried a run with his long-neglected Fox car, and when the speed was announced as 144.92, no one would believe it—including Paul.

Next Bob Loose ran 148.02, and the speed men began to realize that here might be "one of those days." Bissman came up for another turn, with Announcer Howard Fox reminding the crowd of his earlier 149.50, and the tension was high—but the car blew a tire on the 4th lap, and sustained a bent axle. It then seemed to be up to Loose, and his little machine screamed around with that "150 mph sound"; sure enough, he had hit it exactly, thus becoming the only man to reach this figure twice—and only the fourth ever to reach this particular speed.

After this, things were rather anti-climatic; Fox's 147.54—which is normally good enough for an easy first—only got him up to 3rd. Stan Prussian (another previous 150 mph man) could not reach his top form, but Detroit Bob Henich came up from behind to take 4th. Bob had gained an even 2 mph every heat—if he had been able to make a fourth try, he might have gone over the top, too. Our reporter, Bob More, was up near the winners with his Arrow car. Glenn Fairabend had the toughest luck of the day; his car was just rarin' to go, but couldn't seem to hold the track. Single lap times showed 1 sec. flat, or 150 mph, but the car never caught up to the engine, till the latter was well past peak rpm. On later laps the engine showed signs of freezing. Other hard luck men were Swanson, Bill More (loose fly-wheel), Richards, Miller and many others who could qualify for this category.

A tie for top place in the Manufactured Proto class was made by Stan Heckler, while Nationals Spur Champ Fox took this class easily. Top placers in Custom Proto were: 1) Bob Loose (Reading, Pa.), Fox, 150.00; 2) Bill Bissman (Mansfield, O.), 1234 car, 149.50; 3) Howard Fox (Bethlehem), Fox, 147.54; 4) Robert Henich, Jr. (Detroit), 1234, 147.05; 5) Paul Schlosser (Silver Spring, Md.), Fox, 144.92; 6) Stan Prussian (Brookline, Mass.), Fox, 144.69; 7) Bob More (Bethlehem), Arrow, 144.69; 8) Joe Hilberg (Brookline, Mass.), Fox, 143.76; 9) John Cululi (Bethlehem), own car, 143.54; 10) Frank Higgins (Highland Park, N. J.), Fox, 143.08.

In Manufactured Proto: 1) Stan Heckler (Cherryville, Pa.), Arrow, 128.02; 2) Al Holiczka (New York City), Arrow, 128.02; 3) Sal Lollo (Jamaica, N. Y.), Arrow, 118.11. And for Spur Gear: 1) Howard Fox, Borden, 134.52; 2) Franny Wolf (Reading, Pa.), Lieb, 110.15.

Many Sanctioned Races Held. We note from the AMRCA Bulletin that up to about Oct. 1, 48 Sanctions for AMRCA races had been issued for '54. That shows there has been a lot of racing, and of course the figures do not include the many smaller unsanctioned races, and the hundreds of practice and fun-racing sessions. The Bulletin notes also that over 130 Certificates of Performance will have been issued to top-place racers by the end of the year.

A few results of other AMRCA races we have missed might be of interest. St. Louis Model Race Car Club; Custom Proto: 1) Charles Flynt (Belleville, Ill.), Fox, 145.86; 2) Walter Wilson (St. Louis), Flynt, 143.76; 3) Charles Flynt, Flynt car, 142.18. The Newcastle Model Race Car Club meet showed these winners in Custom Proto: 1) Carl Franz (Lafayette, Ind.), own car, 147.54; 2) Paul Kruse (Fort Wayne), 1234, 146.67; 3) Carl Franz, own car, 146.67.

Gold Cup Race sponsored by the Toledo Model Race Car Club had ideal weather for this third running of their Gold Cup classic.

The race definitely proved that good speeds can be attained if the track surface is cleaned often and etched with acid.

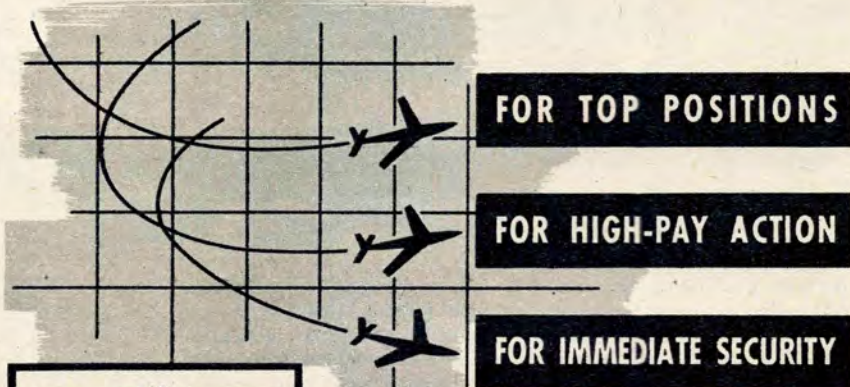
The Toledo gang put up Gold Cups of equal value for all the different classes, with the result that many old cars were dusted off and run. Glenn Fairabend's time was a new track record.

Custom Proto winners: 1) Glenn Fairabend (Detroit), 2345 car—new version of the 1234—144.23; 2) Clarence Miller (Columbus, O.), 1234, 142.18; 3) Richard Daluga (Chicago), own car, 141.95. Custom Sportsman: 1) Carl Noward (Toledo), 1234, 128.93; 2) Earl Oliver (Akron), 1234, 127.47; 3) Jack Oliver (Akron), 1234, 127.29. Arrow Sportsman: 1) Ray Hunter (Cleveland, O.), C&R, 115.08; 2) Howard Rasmussen (Cleveland), Arrow, 114.64; 3) R. Abraham (Akron), Challenger, 112.07. BB Class: 1) Dan Clark (Akron), McCoy, 110.83; 2) Guy Richards (Akron), Invader, 106.63; 3) Bob Seigmyer (Cleveland), 105.63. B Class: 1) Bob Seigmyer, Invader, 99.44; 2) R. Abraham, Papina 3, 99.22; 3) Dan Clark (Akron), Invader, 97.61.

Try Night Racing. This has been found to be a lot of fun and helps keep interest stirred up. The Toledo Club tried this and had a very good turnout—so good in fact that they were not prepared, and as has happened before, the boys had to replenish (Continued on page 72)

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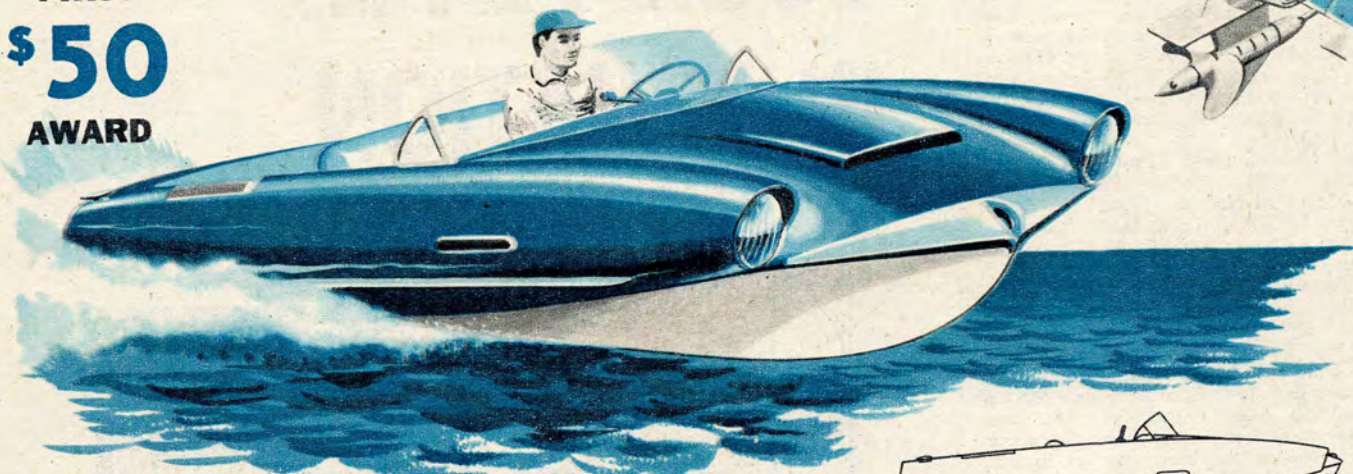
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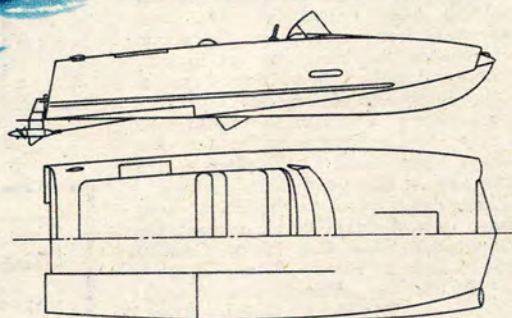
MODEL CRAFT HOBBIES LTD.
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Boat Design Competition

FIRST
\$50
AWARD



Hydrauto by Giorgio Barliani of Brescia, Italy. Sport runabout with automobile-like bow and headlights for night running. Hull has shallow steps along sides for better planing. Powered by 125-200 cu. in. engine developing 65 to 125 hp. Rear seat can be removed for towing water skiers and for sun bathing. Basic construction is wood with molded Fiberglas shell covering top of hull. Bottom is plywood. Prop and strut are hinged at transom, swivel through universal for steering.



SECOND
\$25
AWARD

Variation of the hydro-foil boat that has been operating successfully in California. The hydrofoils here are miniature delta-wings mounted on struts. The cavitation plate on outboard motor is extended to form another delta. Front pair are pivoted on struts and can be banked to facilitate turning. 25 hp outboard is cruiser type.



THIRD
\$10
AWARD



Teen-ager sail boat. Patterned after the fast and popular International 110 class, the small racer is designed to be sailed by one big teen-ager or two small boys. Hull utilizes light wooden aircraft-type construction with thin plywood skin, has weighted fixed keel and flotation compartment. The jib is omitted from sail plan to reduce rig to its barest essentials. Length 14 ft.

Rules governing this design competition are as follows: Profile (side), plan (deck) and (cross) sectional views of the proposed craft will be required, plus any detail sketches necessary to illustrate unusual features. Do not handicap yourself by submitting hull drawings less than 6 inches in overall length. Give sketches of craft from three-quarter front and rear positions. Photos of a model of the proposed design may be included. Information on powerplant(s), estimated performance, dimensions and ex-

planations of special features are required. Data as to age, occupation or schooling of the entrant should accompany each submission. Mail entries to Boat Design Competition, Air Trails HOBBIES For Young Men, 304 E. 45th St., New York 17, N. Y. Entry each month judged most practical or of greatest significance will receive \$50; \$25 will go to second place and \$10 for third. The editors regret they cannot enter into any correspondence or return entries.

The Readers Write

Let's hear from you! Address all letters to Air Trails HOBBIES For Young Men, 304 E. 45th St., New York 17, N. Y.

To get back copies . . . I am a steady subscriber of your monthly magazine Air Trails, or better known now as "Hobbies For Young Men," and I have saved each copy monthly for the last five years. I think it's the very best magazine on the market today in helping the younger generation in understanding aircraft, etc.

Can you help me in getting a copy of a back issue for November 1953, which is the month I got married, and for some reason I can't find this copy in my collection.

Edward J. Turon, New Brunswick, N. J.

● Excuse accepted, Ed! Back copies may be obtained by writing to Back Issue Dept., Air Trails Hobbies for Young Men, 304 East 45th St., New York 17, N. Y.

Below is a list of issues in stock at the present time. These are listed first by year, then by month. January is #1, February is #2, March #3 and so on up to December which is #12.

Year	Available Copies (by Month)
1934	9-12
1935	9
1936	8-9
1937	1-6
1938	1-5
1939	7-8-9-10
1940	3-7-9-10-11
1941	1-5-6-7-11
1942	1-2-3-4-5-6-7-8-10-11-12
1943	3-4-5-6-7-9-11-12
1944	1-2-3-4-5-6-7-8-9-10-11-12
1945	1-2-3-5-7-8-9-10-11-12
1946	1-2-3-4-5-6-7-8-9-10-11-12
1947	1-2-3-4-5-6-7-8-9-10-11-12
1948	1-2-3-4-5-7-9-10-12
1949	1-2-3-4-5-6-7-8-9-10-11-12
1950	1-2-3-4-5-6-7-8-9-10-11-12
1951	1-2-3-4-5-6-7-8-9-10-11-12
1952	1-2-3-4-5-7-9-10-11-12
1953	1-2-3-4-5-6-7-8-9-10-11-12
1954	2-3-4-5-6-7-8-9-10-11-12

The prices are as follows: Current year, 35¢; one and two years old, 50¢; three years and older, \$1. The remittance should be sent with the order, to the above address.

Also available while supplies last: Air Progress Annual for 1952-50¢, "AT" Model Annual for 1954-50¢, "AT" Model Annual for 1953-50¢, "AT" Model Annual for 1952-50¢, (60¢ each in Canada, \$1 elsewhere outside U. S. and Possessions.)

The Horse Trick . . . I saw page 19 and the two horses and the two riders. Keen! I decided to cut 'em out and get 'em together. I got 'em together on the second try. It's easy. I didn't ask my Grandpappy either! I enjoy A.T.H.F.Y.M. very much.

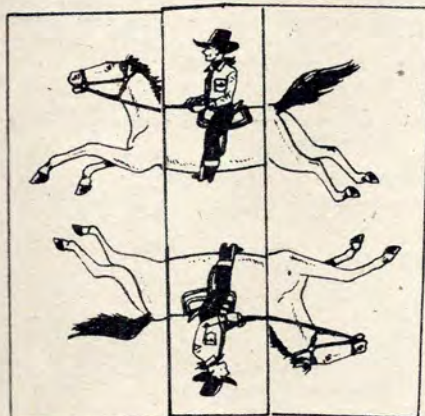
Allan Holzman, Jr., Tonawanda, N. Y.

. . . You Yankees just don't know the front end from the rear of a horse.

Ken Armstrong, Photographer
State Times, Baton Rouge, La.

● For the benefit of those who came in late, Readers Holzman and Armstrong are referring to a scrambled puzzle in the November issue in which two separate riders and two separate horses had to be put together so the riders were on the horses' backs. Below is the correct solution, which Photog Armstrong enclosed with his letter.

(Continued on page 97)

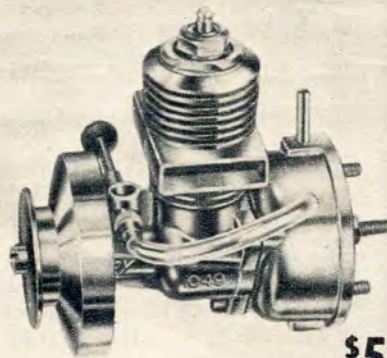


IN THE WAKE

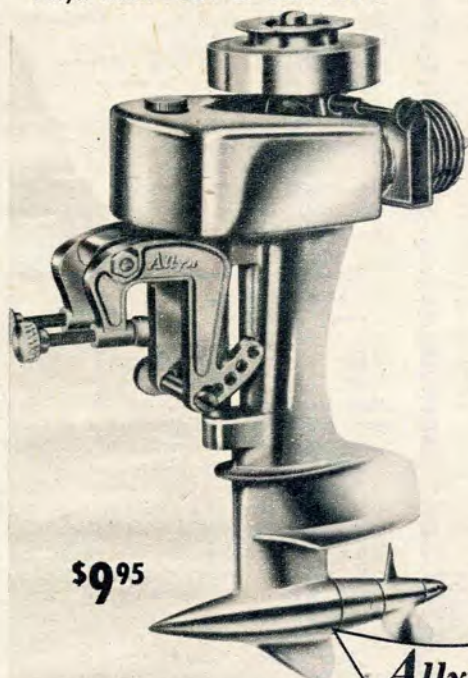
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 Packet #3PP—FIGHTERS: Northrup Black Widow P61; Hawker Hurricane 10; Hawker Tempest 10; Bell Kingcobra P63 9 1/2; Douglas Dauntless SBD 10 1/2; Bell Airacomet P59A 12 1/2; Messerschmitt 109 16 1/2.
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Danger Fighters by C. B. Colby, (Coward-McCann Inc., New York, N. Y., 48 pages, \$1.00) is another of Major Colby's books, this one of the men and ships of the United States Coast Guard. Each page features a photograph depicting some service rendered by the Coast Guard. The everyday duties of maintaining buoys, markers and light-houses as well as the more hazardous services such as airborne medical aid and fighting fires on board ships at sea are graphically described. Emphasis is placed on the air arm of the Coast Guard in the use of the B-17 and the Catalina flying boat as well as the increasing use of the helicopter for searching for survivors of sea disasters, transporting the injured from ships to shore along with the rescue jump teams for work over inaccessible areas such as timberlands and ice or snowbound areas.

The book gives a complete picture of the Coast Guard's function, one of the oldest services in the U. S. Government, and one of the most interesting.

How to Wire Your Model Railroad by Linn H. Westcott (Kalmbach Publishing Company, 1027 North Seventh St., Milwaukee 3, Wis., 77 pages, \$2.00). This revised and enlarged edition is written for the model railroader, not for the electrician. Without going deeply into the theories of electricity, the author answers the many questions that arise in the R/R model maker's mind.

New chapters added to this latest edition cover control for two or more trains, selecting the power and block wiring. This last chapter provides a new concept in model railroading that will make your present layout more flexible and result in many more hours of pleasure.

The Junior Woodworker by Charles H. Hayward, printed in England and distributed here by J. B. Lippincott Company, New York, N. Y. 203 pages, \$2.50. This book has been written particularly for the young fellow taking up wood-working as a new hobby. Starting with a description of the tools needed, their use and care, the author assigns a chapter on how to saw and another on how to plane. Even an old hand can do well to review the information given because these steps of instruction can spell the difference between a craftsman and an eternal novice.

If the reader loves to work with wood here is a book to invest in.

Plywood Projects for the Home Craftsman by Robert Scharff (McGraw-Hill Book Company Inc., 330 West 42nd St., New York 18, N. Y. 180 pages, \$3.95). The author, a popular columnist in charge of "Home Repairs" in over 800 newspapers, has put into book form the varied uses and the easiest methods of handling plywood.

The book avoids advanced techniques of cabinet making but goes into minute description and detail in such projects as making modern furniture, pingpong tables, lamps, serving trays, etc., all of which require only those tools found in the average home. The types of plywood, their grading and suggested uses are covered in detail as well as instruction in sawing, nailing, corner construction and hardware selection and its installation.

Step-by-step information with dimensional drawings, room layouts and photographs of finished articles make this book a must for the home carpenter. Furniture building will become a simple, enjoyable, creative hobby for both father and son with this handbook on plywood and its uses.

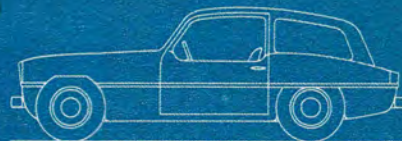
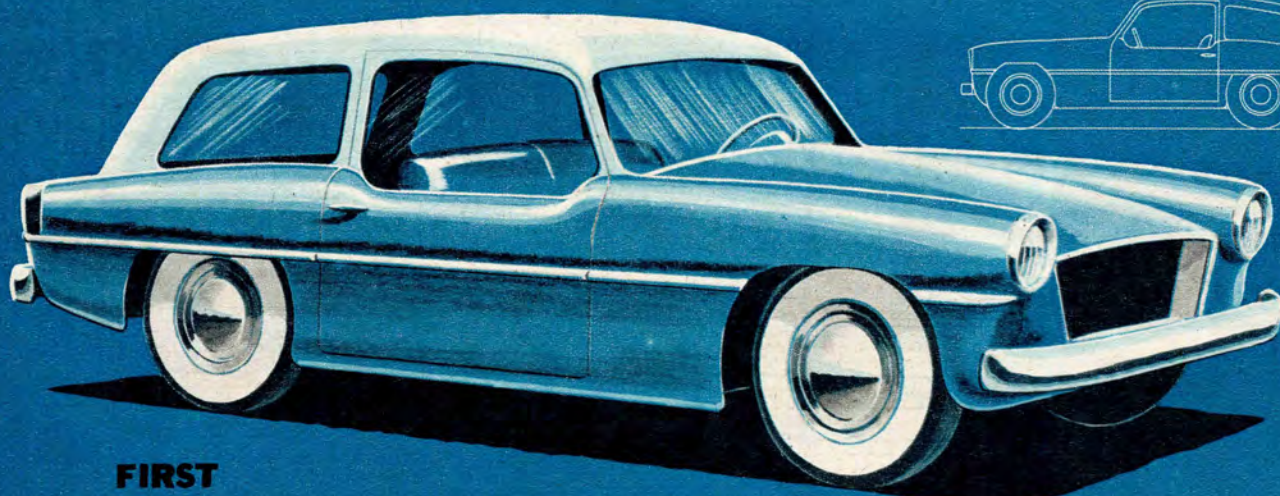
What to Make by the Popular Mechanics Press, 200 East Ontario St., Chicago 11, Ill., 192 pages, \$2.00. This is the 1955 edition of these popular volumes numbering twelve in all, with over 1,700 total projects. This new issue contains hundreds of things for the home craftsman to build and enjoy with easy step-by-step instructions and do-it-yourself plans.

Construction of sewing cabinets, furniture for modern living, the popular ready-made steel legs and the furniture that can be easily constructed are some of the worthwhile items covered. Projects for ice fishing shacks, outboard motor carts, porch swings and the like illustrate the wide diversification.

Plastics for the Home Craftsman by Rodney Hooper, printed in England, distributed by J. B. Lippincott Co., Philadelphia, 166 pages, \$3.00. Anyone wanting to get into plastics on a spare-time or full business basis will find this volume of tremendous help. Not recommended for the casual hobbyist.



AUTO DESIGN COMPETITION

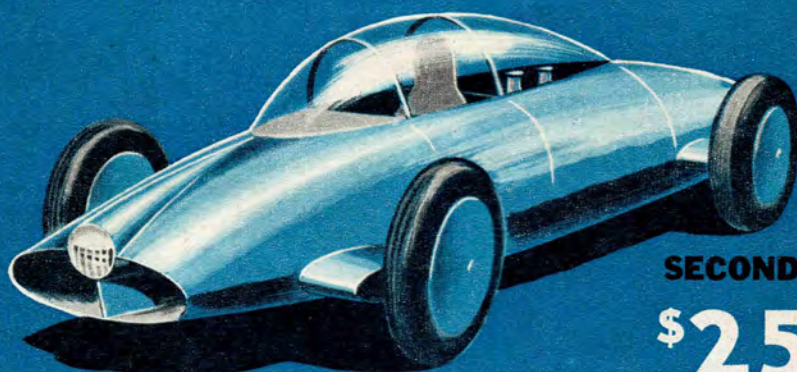


FIRST
\$50
AWARD

Small station wagon along the lines of Nash's Rambler and Metropolitan by John T. Griswold of Lake Jackson, Tex. Designed to be powered by a 50 to 60 hp four- or six-cylinder horizontally opposed air-cooled engine. Because of short wheel base, considerable overhang is needed in the back in order to provide ample carrying space.



Lakester class racer by Paul Priest of Lakewood, Colorado. Closed, streamlined high-speed job has aircraft-type sliding canopy, rear-mounted engine with water and gas receptacles located inside to minimize drag. Headlight just over the air intake duct is for use during night runs, when cool air prevents engine from overheating.



SECOND
\$25
AWARD



THIRD
\$10
AWARD

The Mexico, specially designed for the Pan American Road Race held annually in Mexico which winds for 2000 miles over every kind of terrain. Especial attention was paid here to proper cooling of the twin disk brakes. Powered by 385 hp flat six engine, equipped with quick-change magnesium wheels and a five-speed gear box. By Charles Pelly, Los Angeles, Calif.



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original sport jobs, hot
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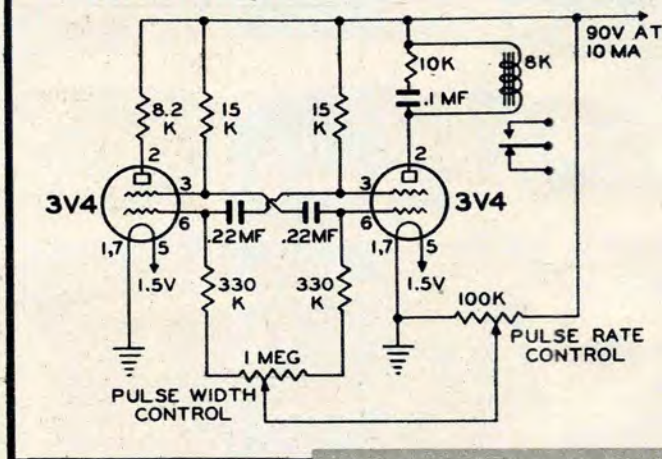
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News, Views, Comment on Radio Control Planes, Boats, Vehicles by Howard McEntee

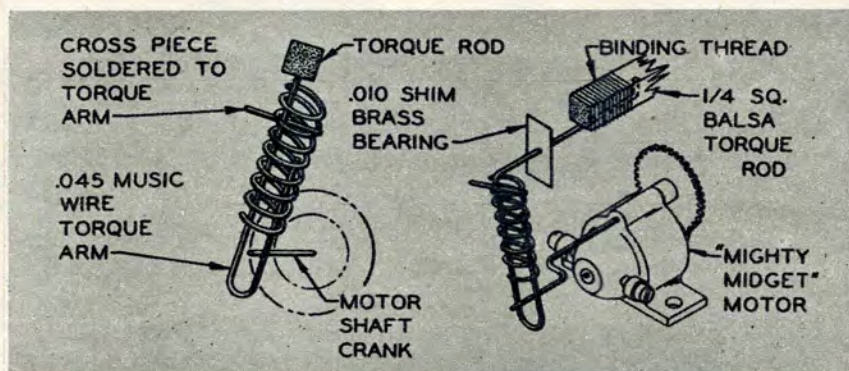
■ For those who can't or don't want to make a mechanical proportional pulser, the electronic style is the only thing, and we have had considerable dope on several in ATH. Some of these have taken the form of multivibrators, but have caused a bit of trouble, since it seems they can't always be duplicated to work as well as did the original. Diagram above shows a pulser that has been tried out and found to work well with many different types of relays from 2,000 to 16,000 ohms, and duplication should be possible by most anyone.

It was worked up by Dr. Walter Good (9802 Parkwood Dr., Bethesda 14, Md.) and the special feature is that the use of two pentode tubes allows such a form of "electron coupling" that the type of relay used has little effect upon the pulsing—a point that causes lots of woe in the triode-connected multivibrators. It is preferable to use about the same resistor in the left-hand plate circuit that your relay has, but even this does not make too much difference. An Allen-Bradley type J potentiometer is highly recommended for the 1 meg. spot, because of its reliability and freedom from noise. The 100K pot. controls the frequency from about 2 to 8 cycles per sec.; this range may be shifted by altering the .22 mf. condensers (smaller to get higher frequency). Extreme pulse

width ratio of circuit shown is about 20/80%; greater ratio may be had by lowering the 330K resistors.

Another Good One! Another trick from Dr. Good is shown below; this is a neat means of using an electric motor for a proportional actuator. Motor shown is the "Mighty Midget" which has a built-in gear reduction, but scheme should be equally good on direct-drive motors. The torque rod is fitted with a hairpin loop which engages crank on motor shaft; the spring that fits over the loop serves to take up the shock of stopping the motor rotation, and it also gives a kick to start the crank back in the other direction, making it practically impossible for the motor to get "hung up" at either extreme. The spring is adjusted by screwing it up or down on the crosspiece soldered to the loop; springs may be had from radio store assortment of dial cable springs (these are usually close wound and will have to be stretched).

Current savers for escapement use usually require some sort of built-in contacts, but Fig. 3 sent in by John Hamblen (10302 Calumet Dr., Silver Spring, Md.) shows one that can be used with any escapement, and is entirely automatic in operation. You simply con-



nect a pilot bulb in series with the escapement circuit! Like other current savers, this works by virtue of the fact that an escapement takes a lot more current to pull the armature closed than it does to hold it this way. Lamp bulbs have much less resistance when cold than they have when they are lighted, so we have the effect of a small resistor in series with the escapement when you first hit the button, but the resistance becomes much larger if you hold the button down (as on a long turn.)

As an example, use of two #915 pen-cells in series on a Bonner Compound escapement gives a current drain of about .34 A. With the GE #13 pilot lamp (3.8 V. at .3 A) in series with the escapement circuit, the "hold-on" current is limited to .18 A, yet operation is still very reliable. Tests with other pilot or flashlight bulbs—and with other makes of escapements—will show what can be used to obtain the lowest possible hold-on current, while still retaining absolutely reliable operation.

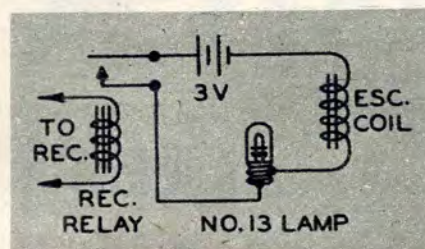
Clubs and Contests. The big Great Lakes Regional R/C meet sponsored by the R/C Club of Detroit and held at their own 80-acre field near the motor city brought out entries from seven states plus Canada, was most successful.

Meet was conducted on the Open-Novice plan and entrants split themselves up about 50-50, with hot competition in each group. Open winner was L. D. Crisp (Perrysville, Ind.) with 128 points—and judging in Open class was tough. Other placers in order were Frank Madl (Chicago), Joe David (Toledo), Jim Gall (Toledo), Claude McCullough (Ottumwa, Iowa). In the Novice group winners were: Bob Verhaege (Detroit), Bob Bennett (South Bend, Ind.), Doug Collins (London, Ont., Canada), Richard Bennett (South Bend), and Don Veres (Detroit).

This info sent by Ernie Kratzet (1112 Book Bldg., Detroit 26) who master-minded the meet. Ernie has also given us news of an "inter-club" meet; the members of the Detroit R/C gang were invited by members of a Toledo club to fly in an inter-city meet. A fine time was had by all, and Ernie recommends this inter-city idea to other groups. This first one was won by Tom Dean of Toledo.

News of several mid-western meets comes from Claude McCullough. Kansas City meet was held at Grandview Air Force Base, and won by Mac with his Torp .32-powered Humbug; Dr. L. Weber of KC was second, and Mac McCoy of Lamar, Mo., was third. On his last flight Claude's engine quit unexpectedly and the plane went down into a parking lot, hitting a brand-new Chevy; his AMA insurance should cover this situation. At meet in Burlington, Iowa, the Humbug again took top place for McCullough, with Paul Jones and Ralph Colby of Cedar Rapids 2nd and 3rd.

1st Annual All New England R/C meet held at Grafton Airport (near Worcester, Mass.) had about 40 contestants, but windy weather grounded many of them. (Continued on page 78)



Announcing an entirely different kind of model plane engine . . .

NEW!

TURB-O-PROP

GAS TURBINE PROPELLER

1. Jet-Tex fuel capsules are loaded into air-tight chamber.

2. Jet fuse extending into combustion chamber is lighted here and ignites fuel.

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- Burns standard Jet-Tex fuel.
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- No prop cranking to start—just fuel up and fire the fuse!
- 1 oz. with fuel and engine mounts.
- Makes smooth, humming engine sound in flight
- Guaranteed performance.

3. Gas from burning fuel is forced out jet-like prop tubes.

4. Prop revolves at extremely high speed with jet thrust of tubes.

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So powerful yet so light in weight, the new Turb-O-Prop means new thrills, new power for every kind of model plane—free flight, stunting, racing. Even makes helicopters and other novelty craft perform with super power. If not available at your dealer's, send \$3.98 (check or money order) for prompt post-paid delivery. Complete instructions.

ATTENTION DEALERS: Write for complete information. Special demonstration offer. Thousands of Turb-O-Props ready for delivery, ready for the demand which this news will bring. Get in early on the most important model plane development in twenty years. Order through jobber, or direct from us.

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THE DEMPSTER COMPANY

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GAS MODELS

DESIGNED BY WORLD-FAMOUS DESIGNER **CARL GOLDBERG**
BY **CHAMPS FOR CHAMPS**

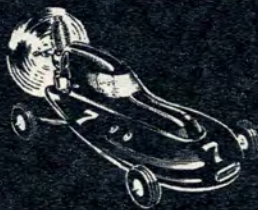
Imagine—there's nothing to carve. They go together in a jiffy because everything is "precision pre-finished."



TRAINEE

WINGSPAN 30", LENGTH 26"
DESIGNED FOR .23 to .49 ENGINES

Smartest looking profile today! Actually flies itself with elevator control disconnected! Great for beginners. Kit G-2 \$3.95



RED RACER

For Tiny Engines or Jet Tubes
New thrills, speed and fun.
Race in competition, in circles, or straightaway, indoors or outdoors. \$1.00



ZING!

Wingspan 23½", Length 22"
Designed for .19 to .49 Engines
A cinch to build and a circus to fly! KIT G-1. \$4.95



LI'L RASCAL

Wingspan 27"

For free-flight and/or control line. ½ A ENGINES. Easiest of all to build. KIT G-5 . . . \$1.50



NIFTY

Wingspan 23½", Length 20"
Designed for .19 to .49 Engines
What a kit! Makes nifty loops. A honey for sport flying. KIT G-3. \$4.95

you can't miss with these

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because... **PATENTED DESIGN GIVES "NO-MISTAKE" ASSEMBLY.**
All parts are die-cut—ready to assemble. NO TOOLS NEEDED!
Guaranteed to FLY!

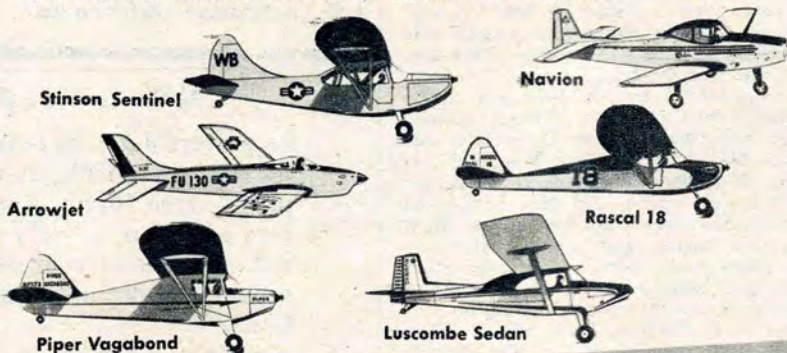
25¢ JIGTIME JETS



"Catapult" these jets with powerful rubber band supplied with kit.

59¢ JIGTIMES

2-color, propeller-driven beautiful flyers. Most have 18" wingspans.



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as advertised in

LIFE

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Please advise us if you move, giving old address and new address; allow four weeks for change of address; address subscription mail to Subscription Department, Air Trails HOBBIES For Young Men, 304 East 45th St., New York 17, N. Y.

Speaking of HOBBIES

That nice display of ATH "Blue Ribbon" kit models was the creation of Harvey Swack, until recently proprietor of The Hobby Center in Mansfield, Ohio. Each month Harvey would feature our special selections together with some giant blue ribbons. Friend Swack has moved up a notch in the model hobby industry and is now associated with a Cincinnati distributing concern.

Toothpicks, toothpicks, toothpicks . . . in fact 3,000 of 'em and if you've got the time and good enough eyes you're cordially invited to count them all. We've got to award the "Toothpick King" crown to Clement J. Miller for his amazing model of the Convair XC-99. He has also "toothpicked" a smaller B-36 and YB-60. Clem is the son of a Convair employee who works at the Kelly, Texas, Air Force Base. (Official USAF photo.)

At press time we had to make a happy correction in the by-line for "Hank" Bourgeois (see page 42 for his "Jamboree" stunt model). His promotion to Lieutenant Colonel just came through; he'd been a major during the several years we'd known him. In addition to piloting Marine helicopters, the 33-year-old Colonel has flown F3D's, F2H's and F9F's. A cardboard cutout book of airplanes started him modeling back in 1930 (are you listening, Mr. Rigby?). He trained as a civilian pilot in 1938, has been with the USMC for 13 years—flew with VMF-214 (the "Blacksheep") during World War Two. And, girls, he isn't married . . .

We gotta thank Albert E. (Al) Abrams, Jr., of "The Flypaper" model bulletin for presenting that fine award "Chips" of Appreciation to us. The inscription: "The Balsa Butchers' thanks go to Air Trails Hobbies for Young Men for their help and cooperation which made the Second U-Control Olympics such a success." The certificate is signed by F. G. Stroh, III, president of the club. Attached to the red ribbon at lower right is—you guessed it—some real chips of balsa wood!

Your attention is directed to our "Hobby-Model World" section in which we will present each month a prize-winning "Most Realistic Model" photo and also an outstanding "Hobbies in Action" photograph. Twenty-five bucks (\$25.00) will go to each winner. Got your camera handy? Then let's have your entry for each! Be sure to give details on the model or models (type, who made it, who's operating it, powerplant, size, type, etc.) and on the picture itself (camera used, film, speed, lens opening, what print paper used, etc.). Include return postage with entries; we'll shoot back any we can't use, but we cannot assume responsibility, so don't send negatives. Any type of model picture can be submitted: model planes, boats, cars, ancient vehicles, subs, and so on.

That miniature port town of Madurodam featured in the September issue of ATH (and displayed on the cover) came in for a visit by British, Swedish and USAF contestants at the '54 World Controlline Championships held at the Hague, Holland. World Champ by virtue of his victory in the Class II F.A.I. speed event with a new record time of 222 kpm (138 mph) was Bob Lutker of Ft. Worth (Texas! Where else?). Bob had his picture taken at the Madurodam model airport as you can see. Bob flew a Dooling-powered plane using a Tornado 7/9 prop, "This-is-it" fuel, pen-bladder tank. Sweden's Olle Ericsson equalled Bob's time on one flight, but Lutker made a repeat flight at the same speed to cinch the championship. Bob spent two months last summer making contest rounds here and abroad as an official Air Force flyer.



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Be a Geophysics Explorer!

If you like science, read
about this still young but fast
growing field that may take you all over the
world and combines love of adven-
ture with job satisfaction. It's wide open



American Petroleum Institute

Both men and supplies as well as equipment may often be flown to the site via helicopter. Among other places, exploration for oil and minerals is now active in Rocky Mountains.



■ He ranges the world. He may operate from a tent camp in Portuguese West Africa, do some prospecting around Dawson Creek in British Columbia, make a trek into the burning sands of Saudi Arabia. Louisiana, Panama, Venezuela—he's been there often, and lately has been investigating in Australia and Pakistan. In his job he may have to ride a "weasel" over the soggy muskeg, mount his equipment in a "swamp buggy," or go off for the day's work in a boat, airplane or helicopter. By way of relaxation he may decide to hunt for a grizzly, perhaps match his skill against tarpon somewhere in the Gulf of Mexico.

Explorer? Prospector? World traveler? He is all these, in addition to being a scientist. Geophysics is that science

which combines geology and physics in the study of the earth—it's interior, its surface, its waters and its atmosphere. The man who specializes in the branch called "geophysical exploration" is the one who draws on this knowledge to locate petroleum, bodies of ore and supplies of water under the ground. His job is not actually to find these things, but the conditions indicating they are likely present. He is employed by oil and mining companies, by geophysical companies that serve industry, and by government agencies.

Today the need for geophysicists in exploring work is great. The field is comparatively young, and growing fast. The number of trained geologists and geophysicists in general almost doubled in the decade between 1940 and 1950. In 1940 the oil industries, the largest employers, spent a "mere" \$30-31 million in geophysical exploring; in 1953 the amount was \$350-400 million. This growth has been brought about by the demand for more and more oil and

In seismic method, explosives are shot after being lowered into holes drilled in ground. Reflected shock waves, recorded, give data.

Geophysical Service Inc.

Air Trails HOBBIES For Young Men

minerals as created by development of new products, national defense, fresh population requirements. Familiar items like synthetic fibers and uranium have played a part, all stimulating the hunt for further sources of basic ingredients.

But so swift has been the pace that the number of "hunters" being trained is far too small to do the ever-expanding job, and experts gloomily predict a real shortage in the years ahead. Here, in this field of exploration geophysics, may be your opportunity, if you are interested in science and travel and can get along with all kinds of people.

Let's see how the geophysics explorer does his work. First on the scene in many cases is the geologist, who through study of rock outcropping and the like locates the general site where deposits may be found "down below." Then, as in the case for oil, comes the geophysicist, to put his finger on the most probable spots where the underground treasure is locked in the geological wrinkles. His is a kind of scientific detective job; using delicate instruments and various techniques, he deduces just where the quarry may be hiding. His report to the client is a contour map, with correlated data.

Different methods are employed for this "finger work," depending on whether the quarry is petroleum, minerals or water, and on the terrain and climate. A chief method is the seismic, most popular in oil exploration (and used in civil engineering as well). Here, the geophysicist creates junior-size earthquakes by putting explosives into holes he has drilled into the ground (and occasionally by mechanical means). The energy of the explosion is translated into electrical impulses by his seismograph instrument, showing the depth of the various rock strata by measuring and timing the intensity of the upward-reflected shock waves. All this is recorded by the instrument to produce a "seismogram," whose wavy lines give a profile or cross section of a segment of the earth's crust. From the info of many such profiles and "shots" he plots a subsurface map of the "prospect."

Another method is the gravity kind, used in both oil and mining search. In this, gravity meters and other devices help find a probable deposit by showing the different degrees of gravitational pull of different kinds of rock. Heavy rocks near the surface pull harder than light ones near the surface or than rock farther down. Such variations often spell out conditions under which oil and mineral

deposits are known to be present.

A third widely used method is the magnetic, which also deals with variations in structures below the surface, the measuring instrument being the magnetometer. This operation can take place either directly over the ground or in the air. Last summer, a plane equipped with an aero-magnetometer located a four-square-mile area just north of Saskatchewan where the gamma reading indicated a brand-new sizable iron deposit.

The airborne magnetometer—a quite small device—is trailed behind and below the plane on an electrical cable, well free of possible "interference" from the metal of the aircraft. While the plane flies at a fairly low altitude back and forth in parallel paths over the area to be surveyed, the magnetometer is busy sending up magnetic impulses about the different rock formations under the surface of the earth. The "story" is recorded on instruments in the cabin.

Other methods include the electrical, the radioactive and the geochemical. (Chemistry too is an aid in geophysical exploration; analysis, hydrocarbon determination and the like may help fill in that underworld story.) The radioactive method, of course, employs the Geiger counter and the scintillation counter—an instrument up to 150 times more sensitive than the Geiger. During the last year these have been popular equipment in the motorboats and amphibians that carried prospectors to "difficult" areas in the ore-hunting boom that struck Alaska.

This so-called boom, incidentally, saw active hunting for all kinds of strategic materials besides uranium. Copper, manganese, mercury, chrome, tin were being sought. Large outfits like Bethlehem Steel and U. S. Steel were on hand, investigating Prince Edward Island for iron and limestone.

Here it might be pointed out that the man in geophysics exploration looking for minerals also hunts for the non-metallic kind, like asbestos. The order may call for finding ceramic clays. Nor should natural gas be omitted. This is usually, though not always, found along with petroleum.

About 90 percent of all geophysicists engaged in exploration are employed in the petroleum industry. Here is a fascinating world in itself, from the basic scientific facts involved to the globe-trotting adventure that is part of its program. The mineral substance known

(Continued on page 62)

Part of the job involves engineering, including surveying to lay out line in the prospect area and determine location of shot holes that must be drilled and charged with dynamite in seismic method. Other methods include electrical and radioactive, as for uranium search.

American Petroleum Institute



Aero Service Corp. and Society of Exploration Geophysicists

Exploring is often done from the air. Here the instrument known as the magnetometer, trailing, is being flown over gold area in South Africa.



Gravity Meter Exploration Co. and Society of Exploration Geophysicists

Boats play a part, too, as in this offshore operation with gravimeter hunting for oil below.

Watch out for 'gators! Swamps may be the place where you search, as in the case of these "doodle-buggers"; next may be deserts of Saudi Arabia.

Geophysical Service Inc.



It's the Finish That Counts!

By S. CALHOUN SMITH



numbers 240, 320 and 400 are best suited to model work (high number, 400, denotes finest grit). These papers are obtainable at hobby, auto supply or paint stores.

Always buy the best quality brushes that you can afford. Fine sable hair brushes can be obtained at artists' supply stores; hobby, hardware and paint stores carry lacquer brushes that are just right for model work. Use flat brushes for general doping and pointed type for trimming. Brush size should suit the model size—doping a six-foot wing with a half-inch brush is a time-consuming production. A selection of small brushes, sizes 4 to 8, and a couple of 1" or 1½" wide large brushes should be adequate. Make a hard and fast shop rule to clean brushes thoroughly immediately after use.

Filler materials include the standard brands such as Testor's or Aero-Gloss sanding sealer. Home-brew fillers can be made by mixing talc powder with clear dope, and a bit of thinner to a creamy consistency for use on wood and paper. Aluminum powder mixed with clear dope is good for big nylon-covered models. Auto primers such as Duco Lacquer Primer Surfacer are used by many modelers to build up a glass-smooth undersurface for top contest-winning finishes.

Model airplane dopes are of two types, nitrate (just plain dope) which is not hot fuel-proof, and butyrates and acetates which are hot fuel-proof. It is good practice to follow through with the same

You asked for it, here it is—a grand new series on how to finish models that will be a big help to everybody. This first article covers air-models

■ A good finish on a model plane is like the frosting on a cake. No matter how much work and time go into the building, a poor finish can spoil the whole effort and in some cases even reduce the flight performance of a model.

Applying a good finish to any model first requires patience as the main ingredient, and second, proper materials and their application.

Finishing methods break down into three general types, depending upon covering and kind of plane model; these are: lightweight paper, for open-frame-work structures not requiring fuel-proofing; heavy paper, silk or nylon, for built-up models requiring fuel-proofing, and all wood models with planked or block structure that may or may not require fuel-proofing. All-plastic models require finishing methods somewhat different from the above types and will be discussed separately.

Selection of proper materials for good finishing includes various grades of fine-grit sandpaper, wet-or-dry finishing papers, good quality brushes, wood fillers, dopes and proper thinners, rubbing compound, polish, wax and spray gun equipment if you can afford it.

Sandpaper of "fine" and "extra fine" grade are adequate for work on balsa; harder woods may require coarser grades. Hardware and hobby stores carry these items. Wet or dry finishing papers of grit

type of dope for the entire finishing job. Also the same type thinner must be used with a particular dope, especially for cleaning brushes. Lacquer belongs to the nitrate family and is sometimes used for model work. Synthetic auto enamels are fuel resistant and are also sometimes used. Remember that enamels and butyrate dopes can be applied over nitrate dopes but nitrates cannot—repeat—cannot be applied over butyrates and enamels.

Typical final finishing materials include Dupont #7 rubbing compound, Simoniz Kleener (polish), and Simoniz wax. Paste polishes and waxes rather than liquid are recommended for model work. All can be purchased at auto supply stores. The Aero-Gloss people include rubbing compound and gloss wax in their model finish line.

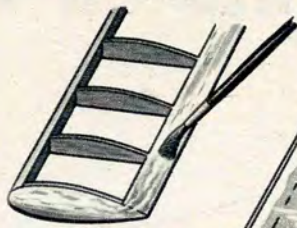
Never dope models when humidity is high or in a damp cellar. Moisture in the air causes the dope to "blush," leaving blotches and white streaks. Check weather reports via your radio and when humidity gets above 65-70% do not do any doping. Anti-blush thinner can be added to nitrate dopes to reduce blushing in damp climates. Modelers in extremely dry areas may find that dopes dry too rapidly. In this case "retarder" thinners will help prolong drying time for smoother finishes.

All finishing methods require adequate preparation after all woodworking (*Continued on page 70*)

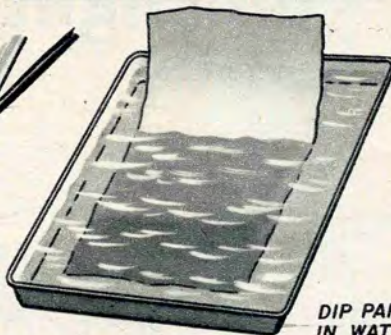
COVERING WINGS WITH PAPER



SAND WOOD SMOOTH



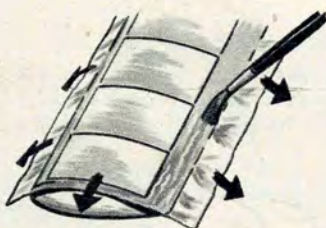
CLEAR DOPE WOOD THAT WILL TOUCH COVERING



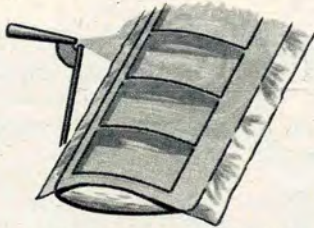
DIP PAPER (SILK, NYLON) IN WATER IN TRAY



BLOT COVERING LIGHTLY WITH TURKISH TOWEL



APPLY PAPER TO STRUCTURE - DOPE EDGES PULL OUT WRINKLES



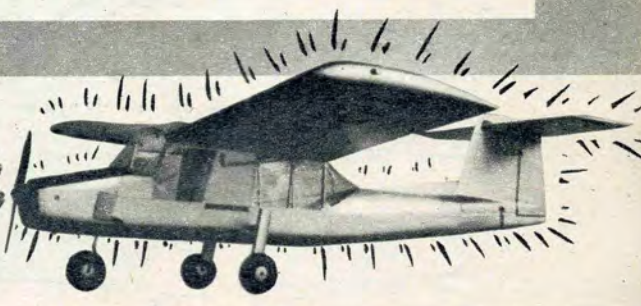
WATER SPRAY TO SHRINK LIGHT PAPER ONLY
OMIT STEPS 3 & 4



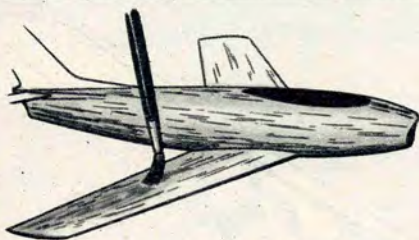
TRIM EXCESS WITH SHARP RAZOR BLADE



CLEAR & COLOR DOPE AS REQUIRED FOR MODEL TYPE



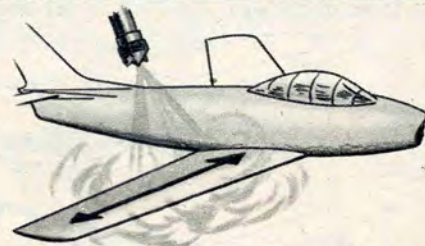
FINISHING ALL WOOD MODELS



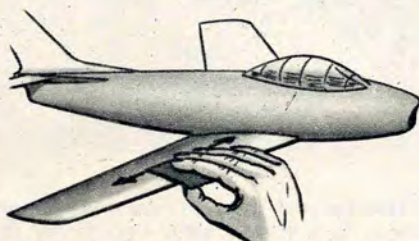
APPLY 2 COATS CLEAR DOPE AND/OR SEALER - SAND SMOOTH



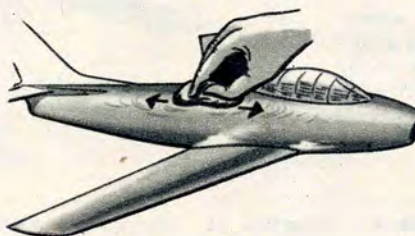
COVER ALL WOOD WITH LIGHT TISSUE - APPLY WET



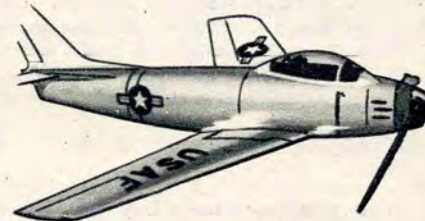
SPRAY WITH 3 TO 6 COATS OF PRIMER, SMOOTH WITH WET FINISHING PAPERS



SPRAY 3 TO 8 COATS COLORED DOPE, SAND WET BETWEEN COATS 400 GRIT DON'T SAND LAST COAT



SMOOTH WITH RUBBING COMPOUND, THEN AUTO POLISH - WIPE CLEAN WITH CARBON TET

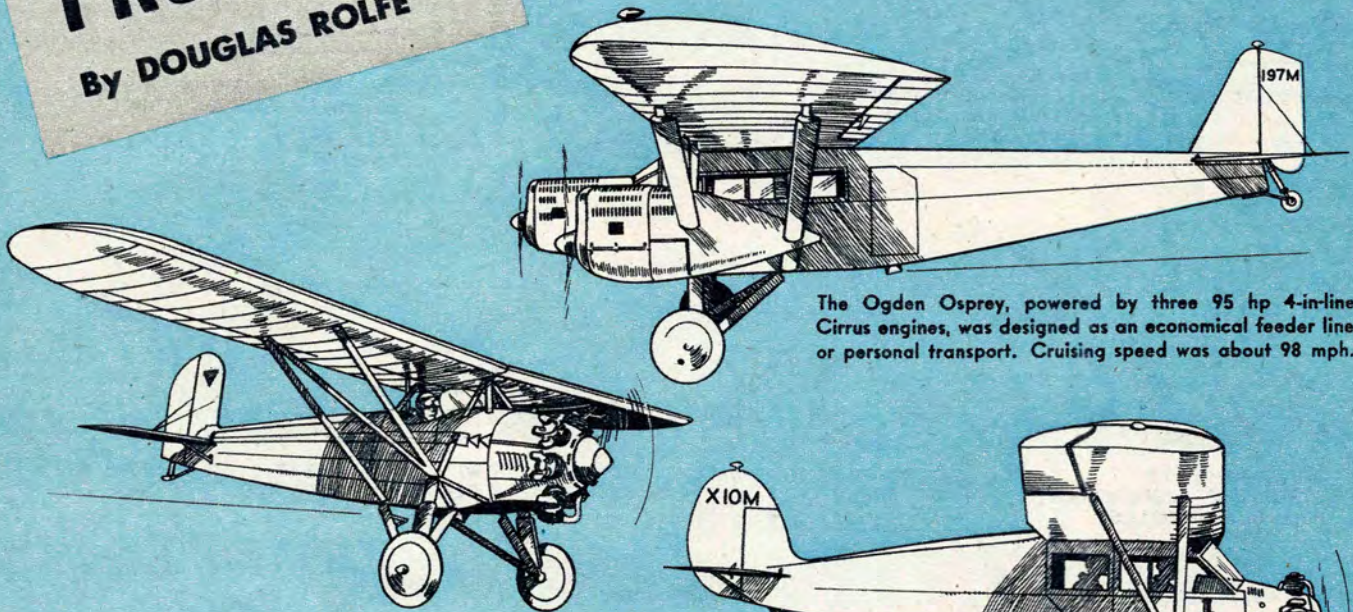


ADD DECALS - STRIPING - INSIGNIA APPLY WAX FOR FINAL LUSTRE

AIR PROGRESS

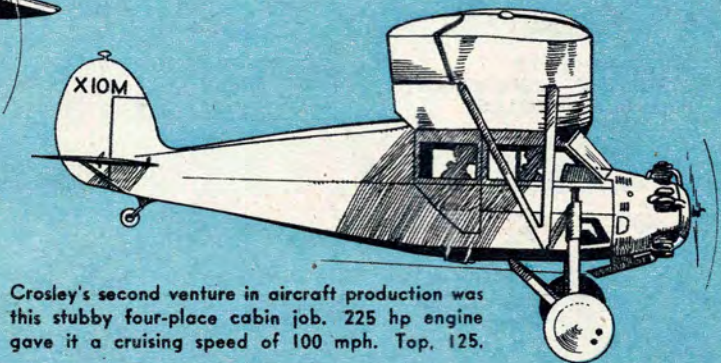
By DOUGLAS ROLFE

Sidelights on the Past

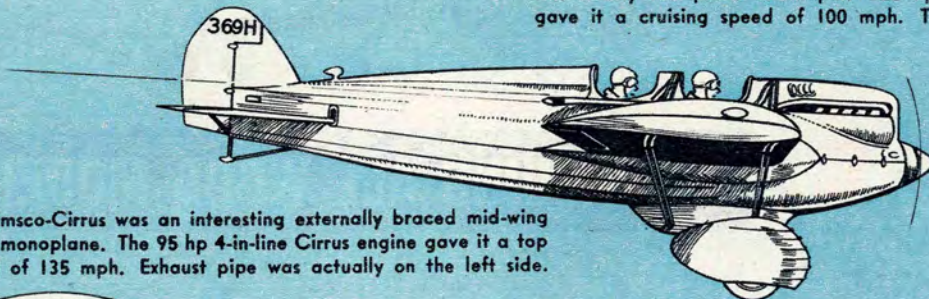


The Ogden Osprey, powered by three 95 hp 4-in-line Cirrus engines, was designed as an economical feeder line or personal transport. Cruising speed was about 98 mph.

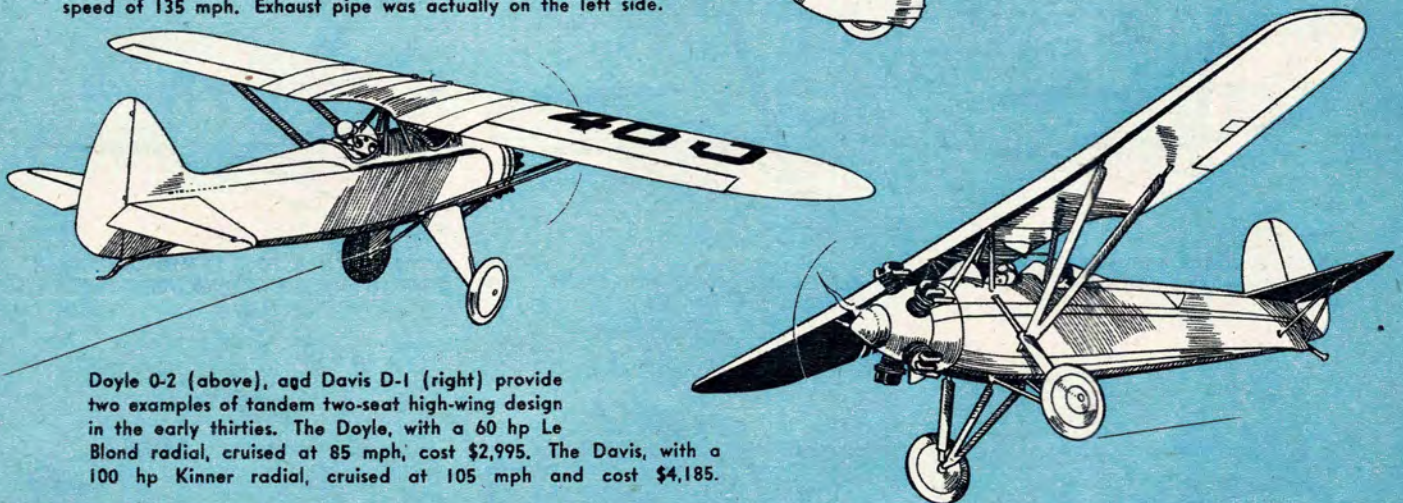
The Inland Sport monoplane was a side-by-side two seater with excellent performance. Various powered: 130 hp Warner to 225 hp Wright radial.



Crosley's second venture in aircraft production was this stubby four-place cabin job. 225 hp engine gave it a cruising speed of 100 mph. Top, 125.



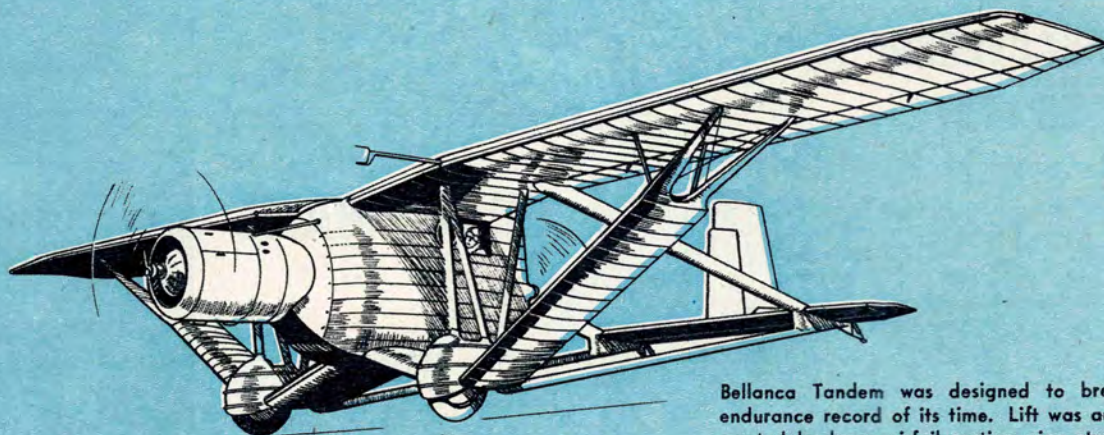
The Emsco-Cirrus was an interesting externally braced mid-wing sport monoplane. The 95 hp 4-in-line Cirrus engine gave it a top speed of 135 mph. Exhaust pipe was actually on the left side.



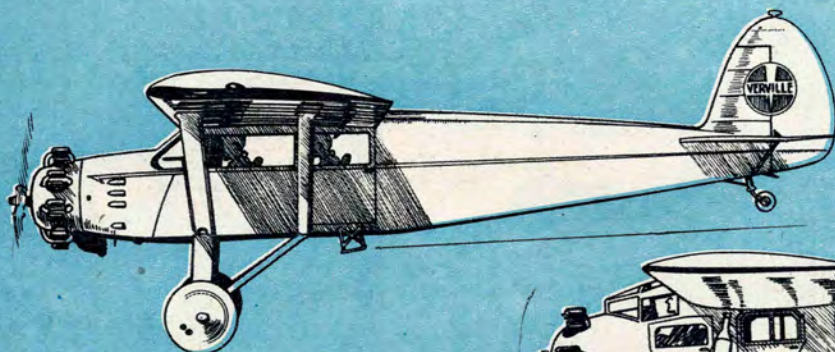
Doyle O-2 (above), and Davis D-1 (right) provide two examples of tandem two-seat high-wing design in the early thirties. The Doyle, with a 60 hp Le Blond radial, cruised at 85 mph, cost \$2,995. The Davis, with a 100 hp Kinner radial, cruised at 105 mph and cost \$4,185.

In a previous issue (July '54) we showed a selection of planes in general use at the time of Lindbergh's flight and immediately afterward. Now we picture aircraft which resulted from the Lindbergh boom. "The Spirit" made the

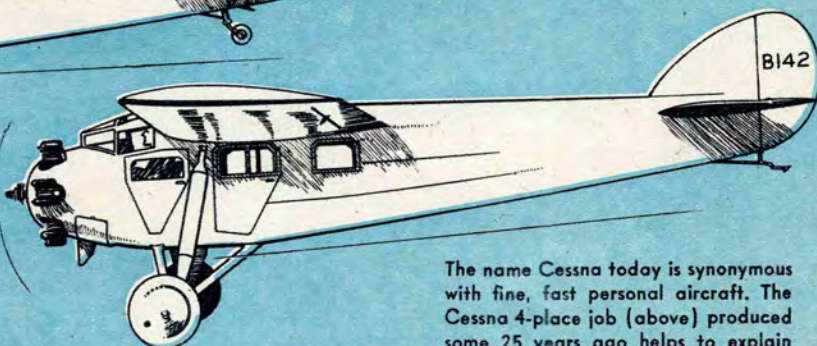
monoplane popular. That the high-wing four-passenger monoplanes came into vogue is not surprising, considering the success of the original Ryan design, but more interesting is the fact that both mid-wing and low-wing designs were



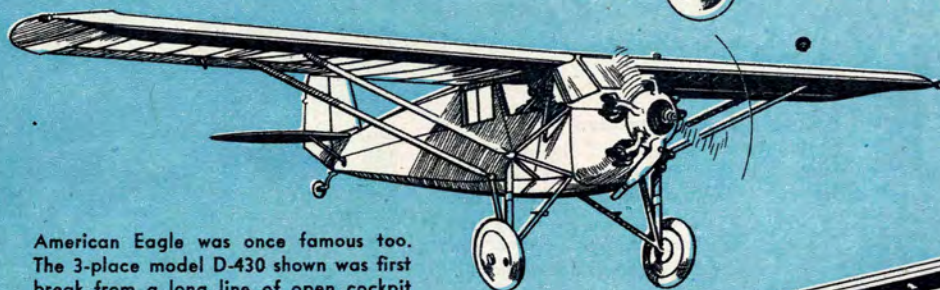
Bellanca Tandem was designed to break endurance record of its time. Lift was augmented by large airfoil section wing struts, characteristic of all early Bellancas; wing-span was 83 ft. Two 450 hp Wasps mounted in tandem drove one 3-bladed tractor prop and, via shaft, another 3-bladed pusher prop mounted at tail end of the two-deck cabin. Latter almost filled by big fuel tank.



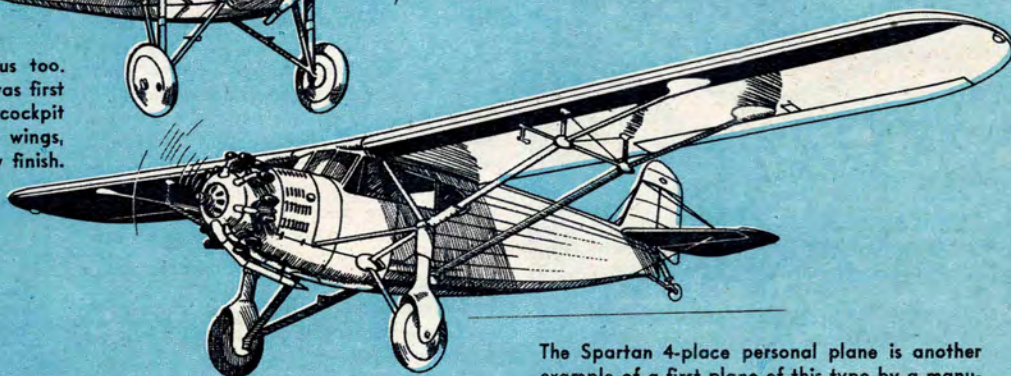
The trim 4-place Verville Air Coach was the product of a once-famous U.S. aircraft firm. With a 225 hp Wright Whirlwind radial it had about the same performance as the Cessna shown below and was priced at a stiff \$10,500.



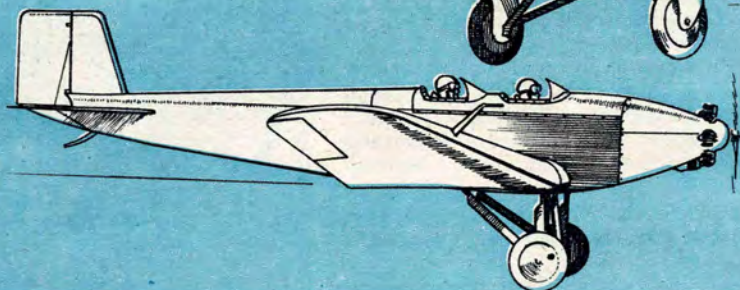
The name Cessna today is synonymous with fine, fast personal aircraft. The Cessna 4-place job (above) produced some 25 years ago helps to explain why their present planes are so good. With a 170 hp Challenger radial, this well-considered airplane cruised at 105 mph and was priced at \$9,200.



American Eagle was once famous too. The 3-place model D-430 shown was first break from a long line of open cockpit biplanes, and featured folding wings, cruising speed of 115 mph, luxury finish.



The Spartan 4-place personal plane is another example of a first plane of this type by a manufacturer previously concerned with open-cockpit biplanes. Had a 225 hp Wright Whirlwind.



The stark simplicity and operating economy of the little Aeromarine Klemm made it a favorite for private pilot training. With 60 hp le Blond radial the cost of this plane was \$3,500.

considered. Up till this time (roughly the early Thirties), there had been real prejudice against the low-wing; this is understandable because the true properties of the design had not been explored, and therefore it was unstable. The

case against the high-wing monoplane in those pre-Lindbergh days is much harder to understand. Morane and Fokker had demonstrated the fine points of this design during World War I. . . . Planes shown have not been in previous "A. P.'s"

**FIRST
DISCOVERED
IN 1727**

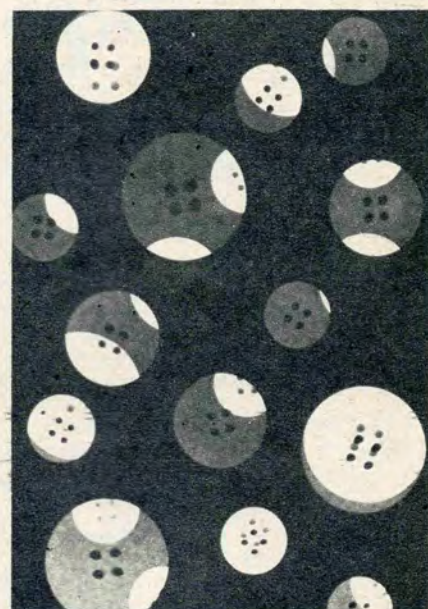
PHOTOGRAMS ARE FUN!



Chemicals required to develop exposed paper: At left is the developer; center, stop bath, and at right the fixer. Photo then washed in water.



Crossed combs make an abstract photograph.



Flying saucers? No, buttons upon buttons.

A delicate pattern formed by fern branches.



■ Long before the camera was invented photographs were made by a process called "photogram" which consisted of exposing to light an object placed upon light-sensitive paper.

Today, photograms are popular once more, having joined the rank of hobbies. They are fun, do not require elaborate equipment, and offer an infinite variety of subjects and patterns. Barest essentials, with which excellent effects can be achieved, are photographic paper of low light sensitivity that can be used in subdued room light, and a light source such as a 100 watt bulb or a photo-flood light if desired. Add 25 cents' worth of developing chemicals and you are all ready for business.

Opaque objects, such as nails, paper clips or anything that is not transparent, will photograph dead-white on black background. Transparent or semi-transparent items will appear in different shades of gray. By using a match instead of an electric bulb, an interesting wave effect can be obtained due to flickering of the flame.

For those who are interested in pursuing this fascinating hobby Eastman Kodak has a booklet available entitled "Photograms—How to Make Them," obtainable by writing to Sales Service Div., Eastman Kodak Co., Rochester 4, N. Y.



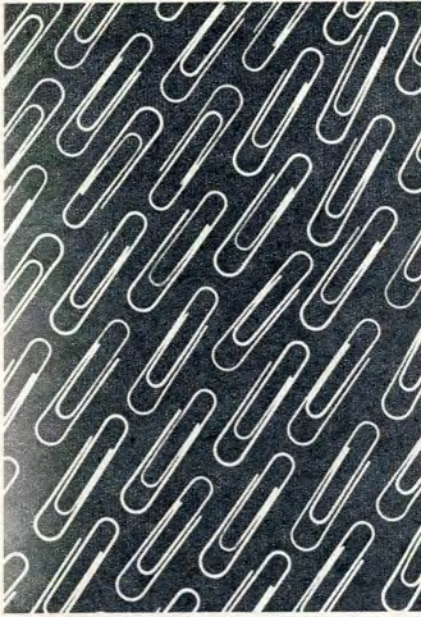
Light close to paper spells best results.

To dry quick: lay photos on paper towels, pat with lint-free rag.





Autumn leaves, softly falling from trees. . . .



Even the lowly paper clip gains new status.



Ten-penny nails acquire added sharpness.



Another fern. Like frost on the windowpane.



Polka dot effect is achieved with coins.



Underwater plant effect via garden flower.



Pencils lose identity in this pattern.



Interesting shapes with twine.



Small blossoms make excellent photograms.

Youthful Jersey Pilots Team Up to Establish New World's Endurance Record

PHOTOS BY ERVIN F. HESS



Gary Probst, 12, left, takes over from Bobby Himmelman, 11, as wind makes things tricky. Detached fuel line dangles from low wire.



■ A new endurance mark of 11 hours, 25 minutes and 30 seconds is shared by two young Union, N.J., control line model plane flyers, Gary Probst and Bobby Himmelman, both members of the Union Model Airplane Club.

Flying a specially designed midwing monoplane, the "Jersey Skeeto," which operated at an average speed of 39.98 miles per hour, Gary and Bobby trudged around at the rate of 720 laps per hour. The record flight was airborne at 10:23 of a Saturday morning. They spelled each other in half-hour shifts to begin with, then cut down to 15-minute stints

as the day wore on—and on into night.

The record-setting model, designed and constructed by the boys' fathers, has 43-inch fuselage and a wingspan of 44 inches. It was controlled by two 60-foot lines and for power utilized a Fox .35 engine. An average height of 15 feet was maintained during the flight. With yellow wings and a red and black fuselage, the model is a colorful one.

Approximately 5 gallons of specially mixed fuel were pumped from the pressurized "hip" tanks up a plastic tubing feed line into a small fuel tank in the model. Solder vibrating loose in the small tank apparently clogged the system as the flight neared the 11½ hour mark, thus terminating the performance.

In recognition of their achievement the team was awarded a trophy by the U.M.A.C. and received a letter of commendation from the Academy of Model Aeronautics. All equipment for the flight was supplied by the Union club. Vernon Davies is president of the organization. Officials participating in the record run included A.M.A. contest managers Harry Gregory and Adam Karp, who filed a formal report with the Academy. A picnic for club members was also held.



Tired but happy team and proud Pops pose at 10 p.m. after end of flight. From left: Bob, Clifford Probst, Henry Himmelman and Gary.



No, that cigarette wasn't lit! The senior Himmelman refueling pressure tank which held 1 pint of fuel good for 12 minutes of flying.

Another refueling operation: Poppa Probst supplies son Gary with soda pop and hot dog. Boys walked about 12½ mi.—in circles.





Scale Flying PIPER CUB J-3

Perfect Project for Radio Control

By CHUCK HOLLINGER

With an unparalleled record of 132 successful flights, this R/C model is a fine tribute to designer and radio

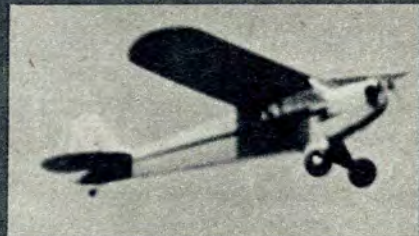
■ If you've had success with the usual array of boxy R/C designs you're ready to give the Cub a try. She's not only a cinch to build and fly, but a model that really looks like an airplane. While the only deviations from scale are the increased wing dihedral and stabilizer area, it has more than proven itself as the total number of actual logged flights to date is 132 (approx. 9 hrs. in the air). Best of all she looks nearly as unmarked as when first soloed.

Credit must be split two ways—the inherent stability of the Cub design, coupled with our fool-proof Babcock R/C equipment. Several of the features came about through Dick Schumacher's influence, namely, the fiberglass cowl and demountable, shock-absorbing land-

ing gear. The wing panels with the scale number of ribs are hooked on by means of rubber bands; they've proven their worth on several occasions already. The motor is mounted on its side to carry through the scale lines, in addition to expelling the exhaust downward, resulting in an oil-free ship.

One feature that really astonishes the R/C flyers is the full-scale operating rudder—but believe me it works to perfection, giving excellent control under power and in the glide, without any signs of over-control. In fact, more than a dozen modelers who had never touched a beep button before have flown this Cub without any trouble whatsoever.

Of course, anyone who has put time in the real Cub will attest to its easy



Six-year-old Cheryl Hollinger poses with Daddy's Piper Cub and Babcock BCT-2 transmitter. Power is Fox .19.

PIPER CUB J-3

handling characteristics—the model inheriting her big sister's stability. Another feature that really makes the Cub so much fun to fly is the motor control. With this you can keep the ship down low, as well as make touch and go landings. After all, this is radio control, so why operate up so high? Except for looping, naturally, which brings to mind the fact that our Cub does its best loops as a seaplane.

As for the construction, it's pretty much standard. The fuselage sides are built right on the plan using $\frac{1}{4}$ " sq. hard balsa for the longerons, crosspieces and uprights. Use $\frac{3}{16}$ " x $\frac{1}{4}$ " stock for most diagonals. Note that there is a slight difference between the construction of the left and right side. Run the top longeron of the right side all the way through same as the left-hand side, and join the two together. Mount the firewall in place and cement securely. Next cover the sides and bottom with $\frac{1}{8}$ " soft balsa sheet.

Cut out and cement fuselage formers fore and aft. Cut out two pine or ply ribs which will form the cabin, and cement to the $\frac{1}{8}$ " sheet which makes the rear window. Be sure to cement these together on top of the plan in order that the angle is right on the button, because these determine your wing incidence. Cement these units to sides of F-4. Now add the ply spacer to the cabin. The two $\frac{3}{16}$ " diameter dowels are cut to approximate length. On one end of these cut a tongue of about $\frac{1}{16}$ " thick and $\frac{3}{16}$ " long. Now cut a groove into each longeron where these will make a snug fit, and cement securely with Weldwood glue. It's very important that the two dowels are put in properly because nearly the whole strength of the cabin depends on them, just as in the full-scale Cub.

Next cover the cabin top with $\frac{1}{16}$ " sheet. Make the remaining window frame from pine or hard balsa. The stringers may now be added. Note that

the center stringer down the back of the fuselage is laminated. Drill hole and insert $\frac{1}{8}$ " dia. dowel landing gear pegs. Construct the upper part of the door of $\frac{1}{8}$ " sq. pine or balsa. Make the lower one from $\frac{3}{16}$ " sheet balsa. Sheet aft end of fuselage using $\frac{1}{8}$ " stock and cement soft balsa facing block to this section.

Construct the fin and rudder by cutting the pieces for the outline, cementing them together and then fitting in the ribs and diagonals. Sand this structure to streamline shape and mount fin to fuselage. Now carve and sand the fairing block to match the fin. Bend the wire that is a part of the rudder linkage, and mount it to the rudder by first inserting it through a piece of $\frac{1}{16}$ " ply. Cement in the balsa diagonal.

To construct the stabilizer, first cut the balsa spar and pin to drawings. Next cut the stab outline from medium $\frac{1}{4}$ " sheet and cement them together. Now cut the $\frac{3}{32}$ " x $\frac{1}{4}$ " ribs to length and cement in place. The $\frac{3}{32}$ " sq. cap strips are glued across the top of each rib. Now cover the center section and turn the stabilizer over and repeat procedure. Cement the $\frac{1}{8}$ " ply spar brace and sand the complete stabilizer, noting the outline as shown on the drawings.

The main landing gear wire is $\frac{1}{8}$ " diameter while the rear brace is formed from $\frac{3}{32}$ wire. A rather sharp bend is required of the rear one where it joins to be wrapped and soldered. Fill in the landing gear with $\frac{1}{8}$ " hard sheet and sand. While on the subject of the landing gear, it was found that the Trexler wheels were just right for the scale appearance and for flying from normal fields; however, they don't seem to hold up for landings on concrete runways. Wheel collars are now used in order to easily change over to R/C wheels whenever we head for a day's flying off concrete.

In order to make the fiberglass cowl it is first necessary to carve a block of

balsa to the required shape. Do the final shaping with the block lightly cemented to the fuselage. When it is the correct shape remove and cement a sheet of $\frac{1}{4}$ " balsa which has been cut to the outline of the firewall. This is necessary in order for the fiberglass to extend $\frac{1}{4}$ " over the forward part of the fuselage when finished. Two layers of cloth with an extra coat of resin were used, and this gave a thickness of $\frac{1}{32}$ " after smoothing with a rasp, and 320 wet or dry sandpaper. Now gouge out the balsa form and you've got an almost indestructible cowl. Mount it temporarily to the firewall and cover the nose section with $\frac{1}{32}$ " sheet in order to bring it up to the thickness of the fiberglass and to simulate the full-scale metal cowl.

Begin construction of the wing by cutting out all the wing ribs including the two $\frac{1}{8}$ " pine or ply inboard ones. Slip these ribs onto the two spars, being sure to leave at least $\frac{1}{4}$ " extension, but do not cement. Shape the trailing edge or use a standard piece of tapered stock and pin to plan. Cement the ribs to the trailing edge and spars. Note that the two inboard ribs must be glued on at a 3 degree angle as this coupled with the 2 degree slant-in of the cabin results in the correct amount of dihedral. Cement the leading edge tips and the nose ribs in place. While the diagonals are a little extra work, they really make a wing warp resistant. Sheet the leading edge and when dry shape the leading edge and tips.

Now add the four plywood blocks to which the wing struts will connect. Bend the wire U hooks and bind and cement to the spars. Repeat this construction procedure for the right wing except remember to make a right panel and not a second left one.

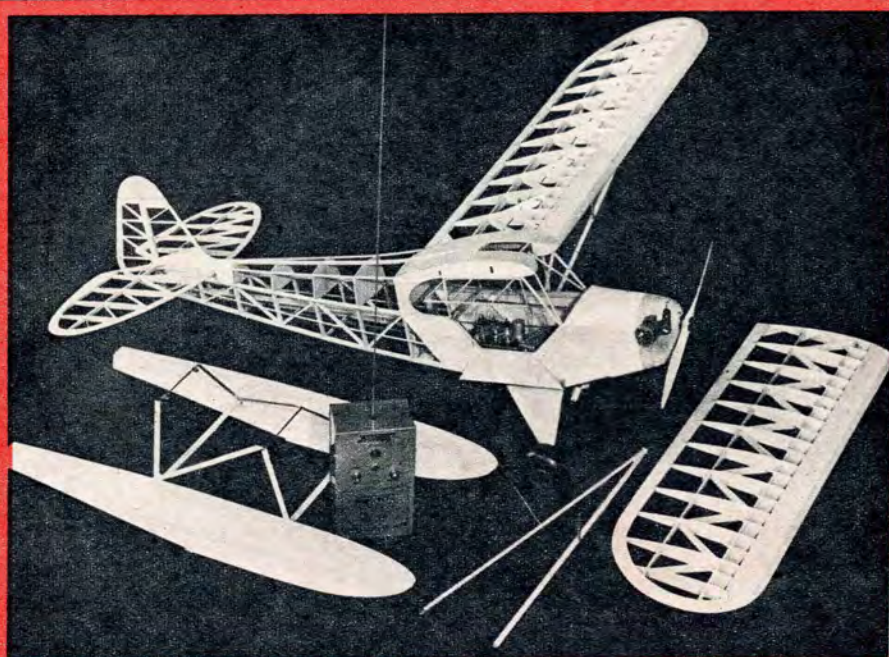
Our Cub used pine originally for wing struts, but after the first fifty or so flights they were replaced with maple.

Additional building details are available on the full-size plans.



Receiver installation is neat; Bonner compound escapement used with Babcock BCR-3 receiver. Chuck ran antenna through one wing panel, but thinks fin connection best.

Full-size plans for the Piper Cub are a part of Group Plan #155 available from Hobby Helpers, 770 Hunts Point Avenue, New York 59, N. Y. (50¢)

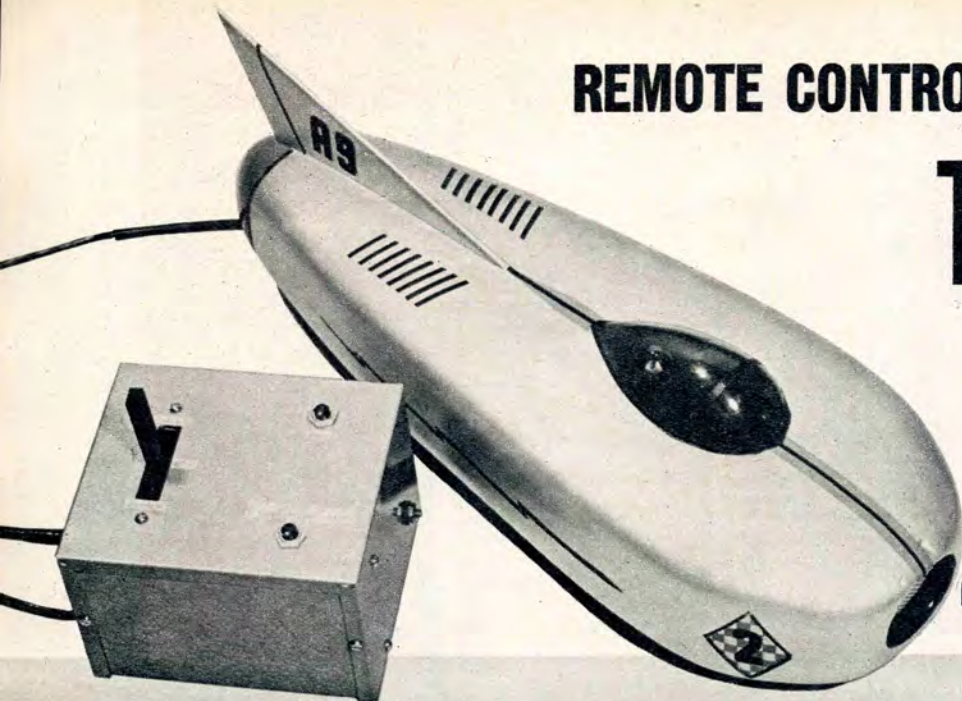


REMOTE CONTROL "BEEP BOX"

Training Car

Just the job for club shows
and for checking out novice R/C
flyers safely, easily

By HOWARD G. McENTEE, W2SI



■ There is no doubt that the ultimate in remote control is that accomplished by means of radio, but what of those who do not care to get involved initially in the electronics complications, or wish to steer some moving object remotely without going into the expense of a radio system? Cable control is the answer, and you get the added advantage that the power can be sent through the cable; so you can utilize line power (110 volts A. C.), and practically do away with battery expense.

To see what might be done in this line, the "car" shown herewith was dreamed up. In order to keep the system as simple as possible, an escapement form of steering was fitted; it takes quite a bit of push to turn the single wheel on the car that is used for steering, so we employed one of the Multi-Servos which has plenty of twist and yanks the wheel around in fine style.

Since we wanted to use as many parts that might be found in the regular hobby shops as possible, the Pittman drive motor is a type made for boat use; it turns one of the front wheels by friction, and is pivoted so that most of its weight rests on the tire. Wheels, by Veco, are 3" size. The motor shaft is a bit short for this

use, so a $\frac{3}{4}$ " length of $\frac{1}{8}$ " I.D. brass tubing was slipped over it. To make the tube fit tightly, the inside was tinned with solder; run the motor on two or three batteries and slightly taper the outer end of the shaft. Then, with the inner tinning, the tube may be tapped on for a tight fit. Some thin plastic tubing over the brass will assure that there is enough friction to get reliable drive (a few wraps of friction tape will also do the job).

Two brass angles hold the motor pivot shaft, which is a length of $\frac{1}{8}$ " drill rod, with a shaft collar on each end. The motor support legs must be drilled for this shaft; be sure, when the motor is mounted, that the other two legs are well clear of the plywood "chassis."

The latter must be cut out to clear the rear wheel, and allow it to turn both ways. The wheel is mounted in a fork of $\frac{1}{8}$ " x $\frac{1}{2}$ " brass strip, and the same material forms a bridge to support the fork. $\frac{1}{8}$ " drill rod forms the axle and the fork pivot.

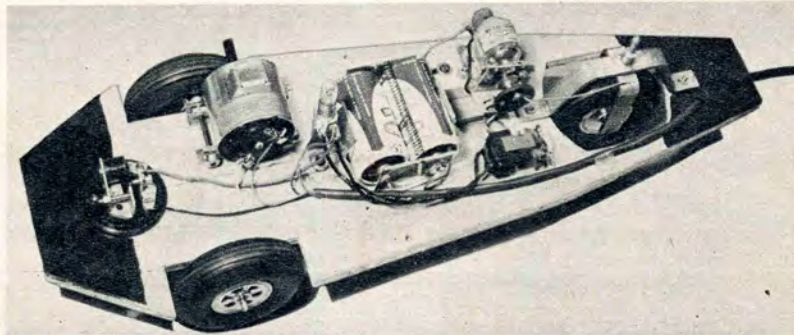
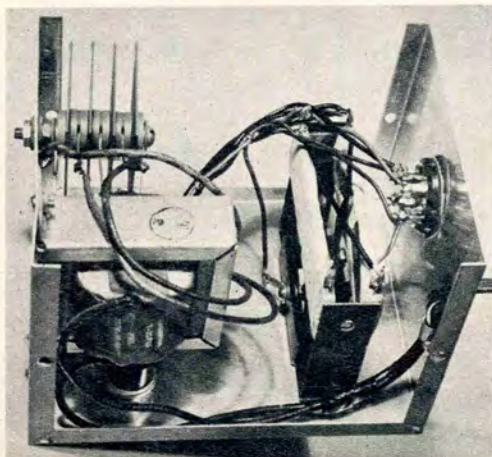
The Multi-Servo is raised on a wood block to bring the shaft up level with the top surface of the fork. It was found that the Servo had to be mounted at an angle, in order to have equal right and left turns; the block on which it is mounted

has slots in each end, and the entire block and Servo assembly may be slid fore and aft to bring the wheel to center, when the Servo is in neutral.

Since the Servo works on only 1.5 volts, it was felt best to put its power supply right on the chassis, so a holder for two large flashlight cells in parallel is used. Running the Servo current through the cable to the control box caused too much voltage drop, and a low voltage relay was mounted on the chassis; all connections in the Servo circuit are very short, and operation is very reliable. Relay voltage comes from the power supply in the control box.

To make operation more impressive to awe-stricken bystanders, a 6 V. pilot lamp is connected across the relay winding, and flashes on and off at every turn! The bulb and socket are raised high enough to poke through a hole on the body, under the bubble canopy.

One added feature is the "horn," actually a high-frequency buzzer attached to the chassis right back of the front air intake. As a matter of fact, the main reason for making the body with "jet intake and outlet" was so the noise of this buzzer would come out good and loud.

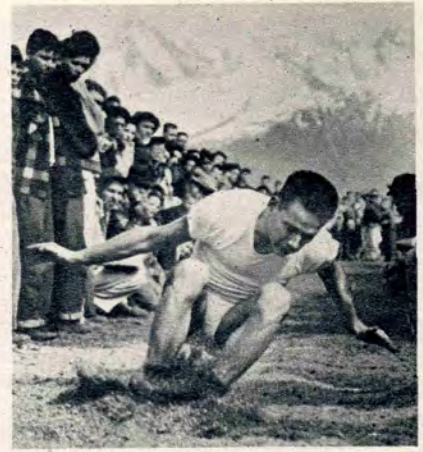


The lively performance of this Beep Box Car will surprise the most callous modeler. Next time a visitor bores you with a report on how fast he drove how far, just hand him the control box and ask him to make a figure "8" with this job. You'll soon see the last of him! All parts are standard; most can be used later for R/C.



"Framed" (left) is the title of this photo of a pensive pup by James Edwards, Central High School, of Scranton, Pa. It won \$50.

Untitled night shot of carnival rides by Kitty Jermin, Forest Ridge Convent, Seattle, Wash., awarded \$100, 2nd place, Class 4.



David Cox of Anchorage, Alaska, High School made this action shot of a broad-jumper to take the \$100 2nd award, Cl. 3.

Photo Awards for High School Students

Prizes galore for the student photographer! If you own a camera and are in the 9th-12th grade you ought to enter this competition

■ High School students throughout the United States again have an opportunity to exercise their creative talents, and to win substantial cash prizes, in the 1955 National High School Photographic Awards.

The Awards, sponsored by the Eastman Kodak Company, offer a total of 256 prizes, amounting to \$5,000 in cash. Students in daily attendance at any public, private or parochial high school (grades 9-12) in the United States and its territorial possessions are eligible. They can submit any number of photos they have taken themselves since April 15, 1954.

Judging will be done in four classes—(1) School Activities (Including Athletics), (2) People—All Ages (No School Pictures), (3) Pictorials, (4) Ani-

mals and Pets. The top prize in *each class* will be \$300 in cash, with second and third selections receiving \$200 and \$100, respectively. A special prize of \$50 will also be given in each class. In addition there will be 240 honorable mention awards of \$10 each. Contest will run from January 1, 1955 to March 31, 1955. Winners will be announced in May of 1955.

It is not necessary for a contestant to be an expert, as proven by past records. Thousands of students have entered the contest every year since its inception, using all kinds of cameras.

Details on how to enter and helpful contest tips are available from National High School Photographic Awards, 343 State Street, Rochester 4, New York.

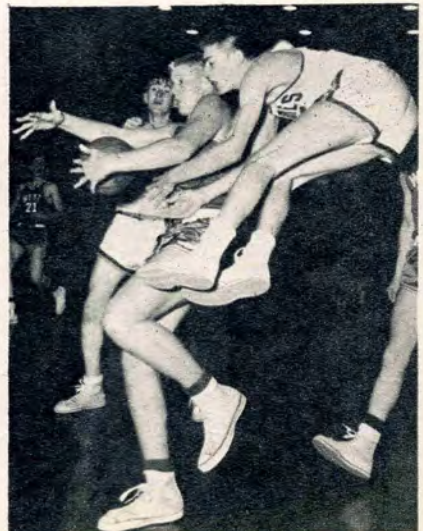
"Aloft" is George Rodriguez' title for his second-place winner in Class 5 judging (\$100). (Fremont High, Los Angeles.)



Tying 3rd place award in Class 5 was accorded this "Stop-Look-Listen" owl shot by Torrey Jackson, Marblehead, Mass., High.



"What the . . .?" is apt title for Don Gangloff's basketball scene. From Roosevelt Hi in Minneapolis, Don won 3rd place, Class 3.



Air Trails HOBBIES For Young Men



Grand prize in Class 5 (\$250) last year went to Rosalie May of the Hamilton High School, Los Angeles, Cal. This was the "animals and pets" category. She titled the shot "Fowl Play."



"Out of school activities" (Class 2) drew the attention of John Ream of Notre Dame High School, Portsmouth, Ohio. His entry "Kid Sister" was judged the best, giving him \$250 award.



Tops in the "art and architecture" classification was Larry Leach who attends the Bakersfield, Calif., High School. His \$250 Class 4 winning photograph named "Hillside Beauty."



TOP WINNERS OF NINTH ANNUAL COMPETITION

Would you believe it? A gal took top honors in the "sports" division (Class 3)! Carlie Ann Hall of the Muskegon, Mich., Senior High School was an easy first-place winner with "Let Me Up."



Splendid shot by James R. Deane of the Rochester, N. Y., East High School, entitled "Trio" won first place in the Class 1 judging ("school life activities"). Lighting here is simple.

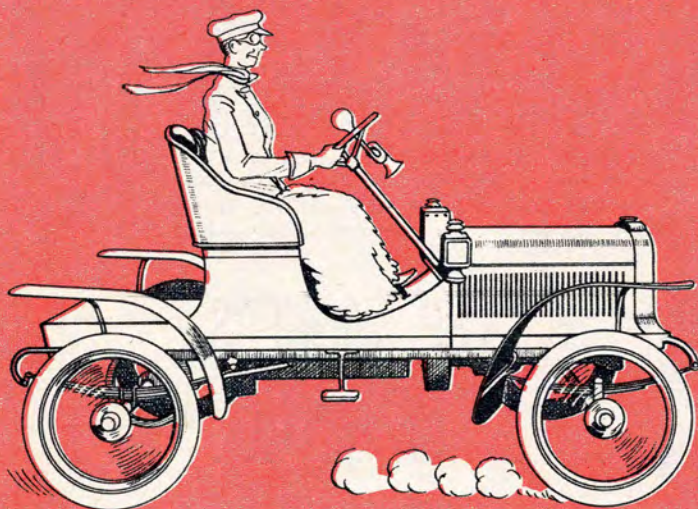


AUTO Progress

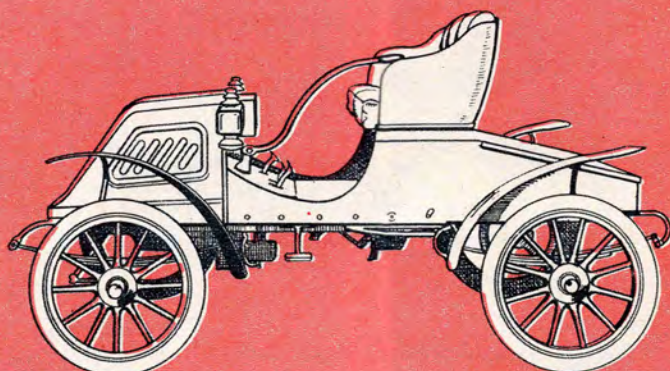
By DOUGLAS ROLFE

The Willys-Overland Story 1902-1929

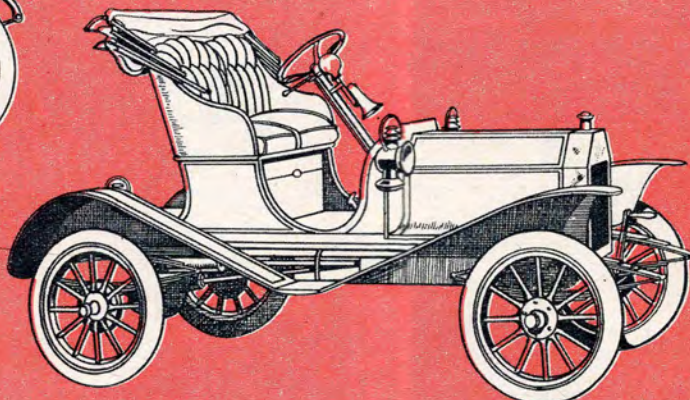
Originator of the Jeep, this firm pioneered in small cars and smooth, silent sleeve-valve motors



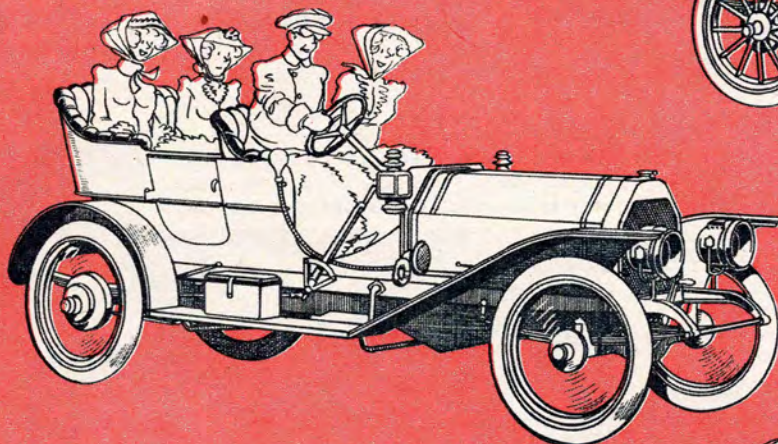
An 8 hp two-cylinder engine was introduced with the Model 17 which appeared in 1905. Tiller steering was replaced by wheel and a conventional radiator and hood were established. This car cost \$750 without any adornments.



First production model (Model 13) was manufactured in 1902. It was powered with 5 hp single-cylinder engine and was devoid of all luxuries. Original price was set at under \$600.

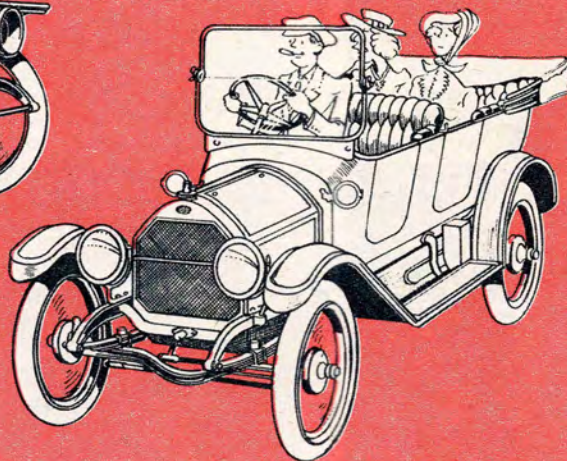


Model 22 (1907) was first Overland 4-cylinder job and boasted full elliptical springs, gear shift control below steering wheel and folding top. \$1,250.



First Willys-Overland six, the Model 36, had a 45 hp engine, acetylene headlights, side-entrance tonneau body but no windshield or top on standard models which listed at \$2,250 in 1909.

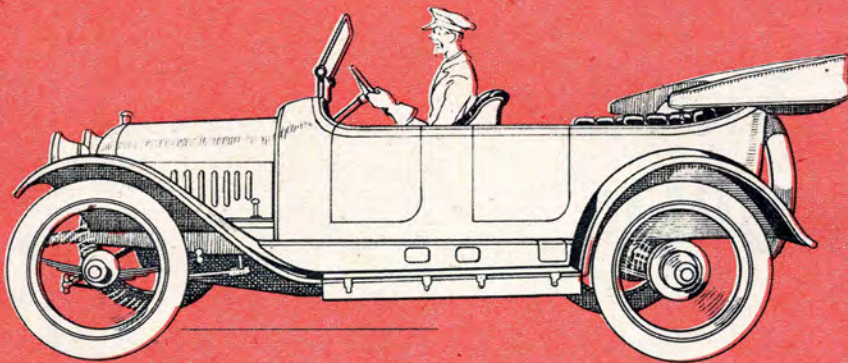
The popular 1913 Model 79-T had 35 hp 4-cylinder engine, windshield and folding top as standard equipment, electric lights and (extra) self-starter. Steering wheel still remains on right side of car. Cost, less starter, was \$950.



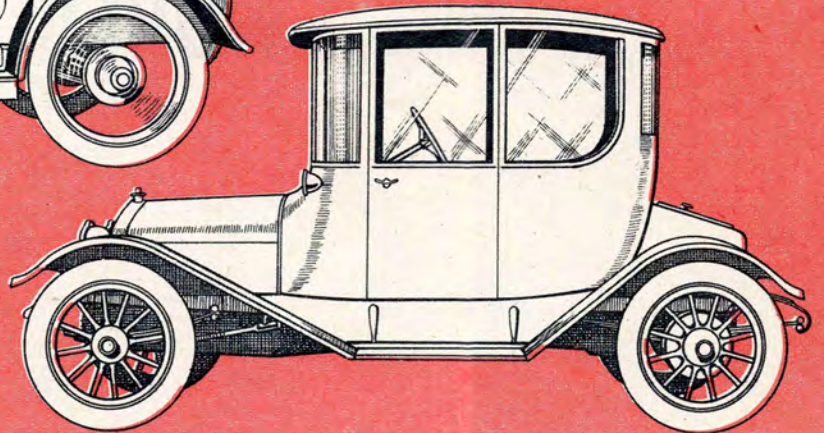
The first Overland was an acquired model, a stark little two-seater with an 8 hp single-cylinder engine. This car was originally hand-built by the Standard Wheel Co. of Terre Haute and marketed by the Overland Motor Car Co.; in 1908 John Willys took over

the firm and Willys-Overland came into being. The reorganized company embarked on a bewildering number of models and set out to crack the low-price car field as well as get a toe-hold in the high-class market. A notable example of the latter effort is the

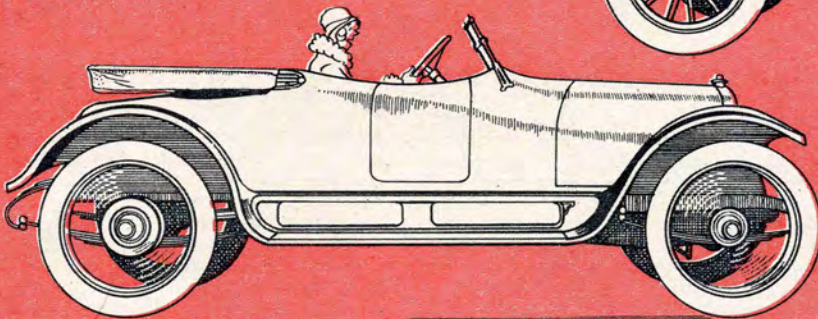
Air Trails HOBBIES For Young Men



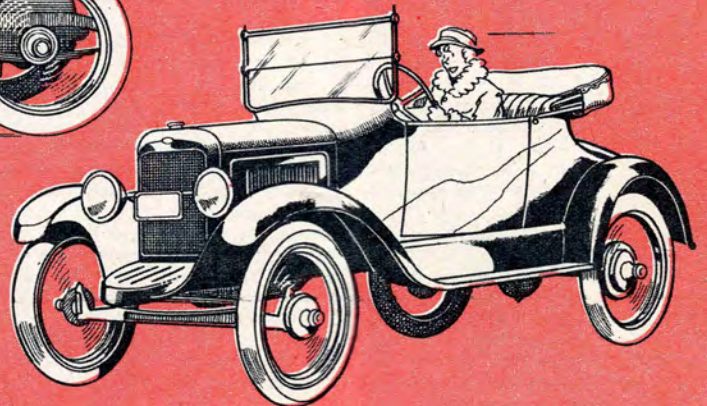
The 1915 Willys-Knight marked a further departure in car design. Powered with the sleeve-valve engine taken over under the Knight patents in 1914, this was a truly silent-running car in an age largely noted for its noise.



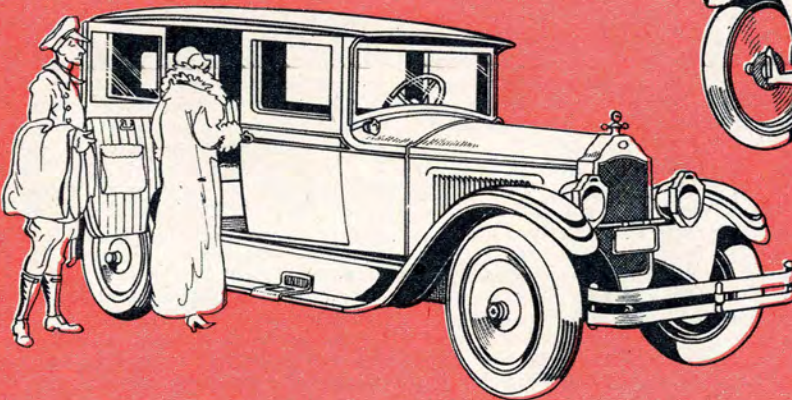
The 1915 Model 79-C Coupe had unusual visibility thanks to its rather high body lines and large, deep windows. Fully electrified as to lights and starter, it was priced at \$1,150.



After eight years Willys revived the L-head 6-cylinder car with this good-looking cloverhead (Chummy) roadster in 1917. The 45 hp L-head poppet-valve engine gave it more than average speed.

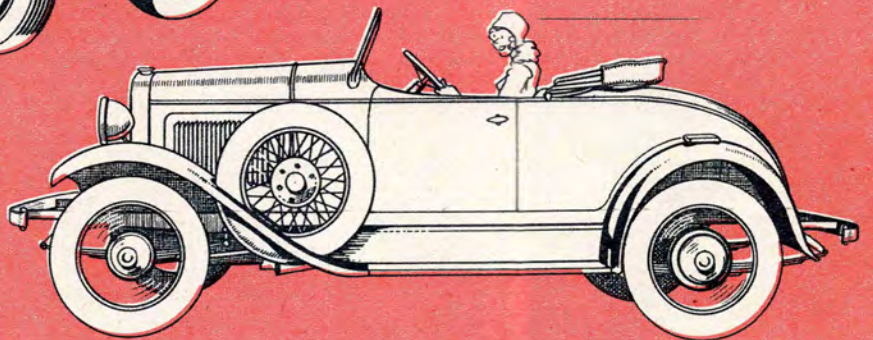


This Fordish-looking job was marketed in 1921 and was directed against the booming sales of Ford and the then Chevrolet. It was much sturdier than the Ford Model "T" and the transverse front springs were "splayed" or "veed."



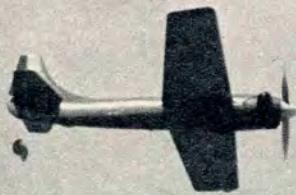
Advertised in 1925 as the car "You'll never wear out," this somewhat Packard-like Knight-engined limousine was in fact a smooth-running and almost completely silent car with excellent lines. Sixes were priced from \$1,750 up—fours from \$1,195.

The Whippet Four, shown here in the roadster model, marked another striking venture in the Willys-Overland story. With an economical 4-cylinder 40 hp engine, mechanical four-wheel brakes, it cost \$595 up.



Willys-Knight—also an acquired design. The firm bought the Knight patents in 1915 and marketed this superb car in fours and sixes until 1932 when it was dropped in favor of L-head fours. One of the most interesting W-O cars turned out during this

period was a Fordish model of the early 20s. It resembled Ford outwardly, but splayed front transverse springs were anchored on projecting platform. Another issue will show the many other low-price cars leading up to the Jeep and the Aero-Willys.



HOBBY MODEL WORLD®



Read this to see why model builders have more fun than anybody! News, views and comments by the "Dopester", Dick Everett & R. H. Elliott (P.S. We pay \$10 for photos)

What's Happened to Craftsmanship?

That's the question a lot of thoughtful folks have been asking ever since the plastic "snap-together" scale model made its appearance. It's to be hoped, of course, that a lot of fellows who start out with the ultra-simple plastic scale models (planes, boats, cars, wagons, subs, etc.) will go on to more advanced kits where handiwork is still a basic ingredient.

Along these lines we can't help but applaud a little folder that the Monogram folks put in each of their plastic Midget Racer and Hot Rod kits. It's a little message designed to get the plastic "assembler" started along the path to plastic-and-balsa scale models. From that point he can graduate to the more difficult kits requiring greater skill. The folks at Monogram put it this way:

"You are going to have a lot of fun assembling your all-plastic Monogram model. And when you have finished it you will have a real scale model—of the real thing. But assembling an all-plastic model, with all of the parts snap-fitting and press-fitting into place, is only one phase of model building. To get the full-est enjoyment—the most satisfying realization of your own talents and skills—

you should actually build your next model from one of the famous Monogram balsa-plastic or all-balsa kits.

"Millions of fellows have built their finest models with these kits and got a world of enjoyment out of every minute they spent on them. They found double enjoyment, too, building with Monogram's perfectly machined balsa parts in combination with molded acetate plastic parts. Balsa, you know, is the most widely used of all model building materials. This fascinating South American wood is so light, so soft—yet so strong and easy to use—that working with it is a delightful experience and results in extra fine finished models."

End of quotation. This is not intended to be an advertisement for Monogram; you'll find that firm's ads in any issue. What we do want to illustrate is how one concern is doing its bit to carry the novice modeler over into something beyond the starting plastic stage.

For our part you'll find starting in this issue a new series of "how-to" articles on finishing models which will be run under the general title "It's The Finish That Counts!" Even the most perfectly detailed, absolutely accurate plastic snap-together can be enhanced by some addi-

tional details. It gives it that personal touch that indicates you really did have a hand in the building of the model. The series on finishing is designed to answer the most common questions put to the editors—questions such as "How can I determine which way the grain runs in the paper?" and "How can I apply aluminum covering to a scale model?"

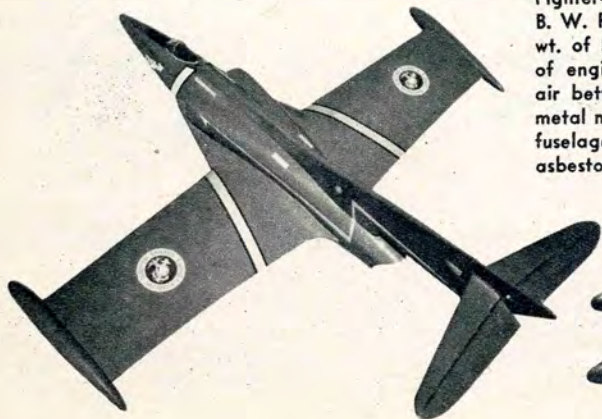
Even if you know all the answers, hang on to the series, there's sure to be someone in your neighborhood searching for the information.

Confusion Regarding Scale. That's what Joseph Senjanec of Campbell, Ohio, says is bothering him. Claims he's been wanting to write us for months but kept putting it off because he didn't think it'd do much good. Perish the thought, Joe! Friend Senjanec wasn't quite sure of how to get across exactly what's on his mind without confusing us all—then goes on to paint a pretty clear picture.

"To begin with," reports J.S., "I am an all-plastic model airplane fan simply because I haven't the patience to work on any other type, nor do I have the proper facilities and mainly because I'm too lazy. [At least he's honest—Dopester's note.] To date I have assembled 33 such models all in the 1/4" to the foot scale. I intend to build—I mean assemble [this guy is really honest, gang!] as many more as I have room for.

"I am trying to build an airport layout to be used as background for photographic reasons. Thus far I have built

Fighter-type semi-scale Dyna-Jet powered U-control by M/Sgt. B. W. Robbins of U.S. Marines has 51" span and length, all-up wt. of 5.5 lbs. Air ducts above wing direct air to hottest part of engine; lower cooling ducts at bottom of fuselage direct air between the skin (planking) and insulation. In addition to metal motor shroud of .020" aluminum, insulation on fuselage is waterglass, heavyweight foil, asbestos paper, another foil layer.



200 miles per hour! That's what the control line model (at left) did as test research plane at Wright-Patterson AFB under direction of Adam J. Stolzenberger shown with ship. We've had many requests for pix of this plane—here 'tis. Control was from outside the circle. AJS is now v.p. and chief designer for Dynamic Devices, Dayton, O.

a diner-type restaurant (fully equipped) and have nearly completed a T-type hangar. These I had to design myself. I was able to save enough . . . to get a 35mm Spartus camera which should enable me to obtain better pictures than I have been getting with my old 620 box type. Perhaps from the preceding you may have an idea of what I am trying to do.

"However, now come the gripes. I was wondering if you couldn't establish a few rules in regards to the manufacturers who turn out model airplane kits and advertise in your publication. Here, as I go along, I will use the October issue of ATH as a guide. My first suggestion: require all manufacturers to clearly designate the scale of their models!

"Page 11 (Monogram Models)—In what scale are the models of the B-25 and B-26? How about the 'Superkits'? Page 15 (Dyna-Models)—Are their airplane kits 1/4" scale? Page 66 (Helicopters)—What scale? Page 77 (Saunders-Swadar)—The autos are 3/4" scale, what about the helicopters? Page 81 (Allyn)—The wingspans are given. Wouldn't it be just as easy to give the scales too? Page 93 (Hobby Showcase)—Description of Revell's Trio Plane Kit—what scale?

"Then, too, the manufacturers can cross you up. I've assembled a number of Hawk plastic models and I think they're fine 1/4" scale models. I was ready to buy their Convair XF-92 and wha' happon! Scale—1/72nd—or is that another way of saying 1/4"?"

Well, Joe has a legitimate complaint, we'd say. Funny how those scale designations will escape you. Even on magazine plans we've been known to slip up and give no scale or the wrong scale. Maybe a little publicity like this to Mr. Senjanec's communication will serve as a reminder to the scale mfg. group that the customers want to know what scale is being offered.

As far as requiring the manufacturing advertiser to publish the scale of his kit jobs, Joe, we can only hope and pray. The Federal Trade Commission would probably never require that as a "must" for doing business. The best way to make that a reality is to write the kit makers yourself. After enough letters they'd probably get the idea.

An unfortunate thing about scale kit models is that old-time toy trade practices have been evidenced from time to time. One firm will have a 6-inch P-51 for 29¢ (let us say), so the competition brings out an 8-inch span job for the same price, or a 6-inch job for 19¢. That makes it a better buy—supposedly.

Bill Choat of Toronto Society of Model Engineers with radio controlled battleship. It is a working model of HMS Hood. Length is 7 feet, 2 inches; weight, 50 lbs.; took about 3,000 hours to construct. Two 6-volt electric motors are utilized, one for drive through twin propellers and one for rudder control. Power from storage batteries. Ship can be controlled in forward, stop, reverse and by right and left rudder. Four channels are used in the 50-54 megacycle "ham" band.



Most Realistic Model—\$25 Award Winner!

From Trieste comes this month's prize winning photo of a scale model Convair Liner 240 by Oliviero Nemaz. It's a credit to the solid scale fraternity and a fine example of craftsmanship. How about you entering the contest; give photo details.

But let's hope the business man will take into consideration the real scale crowd, too, and at least start designating scale, peculiar as it may be.

Cleveland-itis. No, this isn't a sickness that befell all Cleveland Indians rooters last fall. It's something brought on by the never-ending search for old Cleveland Master kits by a small but valiant band of air fans. W. Winger, 11219-81 St., Edmonton, Alberta, Canada, is a charter member of the WOW-CIGTSCK club (where, oh, where can I get that special Cleveland kit?). Hez after a Focke-Wulf 190, a Jap Zero and a Spitfire. Seems to us somebody could make money by putting out those old Cleveland kits. No? Anyhoo, can anybody help WW?

Navy Bloke Approves Boats. Richard L. Anderson of Albion, Mich., is the Navy fellow to whom we refer. Currently stationed in Bethesda, Md., he doesn't have much chance to operate his model boats, but he does appreciate our miniature boating features. "I have read your

publication since Air Progress back in the '40's," he writes, "and think Air Trails Hobbies is the best yet. I especially like your breaking the mag down into sections—boats, airplanes, radio, etc. Keep up the boat information."

Thanks for those kind words, Dick. Navyman Anderson sent along some snapshots of an Aqua-Skimmer (Jasco) and a Dyna-Models' Chris-Craft runabout.

At home, he's got a lake "a stone's throw from the work bench." What a set-up! He and his brother are racing a Wasp powered A-S with a 5 1/2/3 prop against a McCoy Diesel .049 with a 6/4. Final results are not yet in. In conjunction with his outboard glow plug job Dick offers some sage advice: "The outboard is stock except for the safety line. It is of stainless steel and is easily removed from the motor as well as the boat. The line is secured to the boat by an eye that is in turn bound to a plywood square that is embedded into the hull. I have seen engines secured to the transom only torn out by a severe blow to the engine shaft and the whole works go down."



Sad to Relate. Galen Ozawa reports on the flight tests of his V.T.O. which we covered in the September issue. It flew hand-launched, but somewhat sluggishly because of off-balance condition and excessive weight-for-wing area. Later it tore itself to pieces when a prop flew apart. Everything let loose. P.S. Galen isn't giving up: "I hope to design one for a Fox .35 when and if a good 2-speed is available." Stiff upper lip, old boy; better luck next time.

Realism and Action! We're informed by the editorial powers—that be—that beginning with this issue \$25 awards will be made each month for the most realistic-looking model (boat, plane, car, etc.) and for the best action shot of a model under operating conditions. Total of \$50! Most every modeler we know has a camera, so there should be lots of entries in these two competitions. The editors will be looking for details on how your picture was made—camera used, exposure, film, lens setting, etc.

Engineering and Engines. "Keep up the swell articles about engineering and 'college dollars'," advises Neal Howard, Jr., of Danville, Va., "I finish school next year and find these very interesting and plenty helpful." Neal then goes on to say he's engine-rich and kit poor. Wants to swap a recently rebuilt K&B .29 or a Dooling .29 (only flown five times) for a Sterling Tri-Pacer or Kenhi Buzzer'd kit. If idea appeals contact him at 564 West Main St.

Wants Pen-Pal. Thomas Yasin, 35674 Dequindre, Warren, Mich., is 13, favors U-Control stunt and combat. Would like to correspond with someone of same age and interests. Neil Hill, 41 Marquis St., St. Catherine, Ontario, is devotee of Half-A flying scale; wants to hear from others of same mind. William F. Rossi, 105 Tait Road, Box 472, Somerdale, N.J., built a 10¢ model of the Megow primary glider kit many years ago. Anybody still got plans for same? Pen pal notices pay off, reports D. J. Tanner of Lee-on-Solent, England. Says that he has acquired many U.S. friends who have swapped plans, information, etc. He states that our construction plans enjoy world-wide popularity. He and a friend have completed Dick Atkins' B-26 Invader. Another English fan, Frank

Buckland, Medlers Mead, Godden Green, Sevenoaks, Kent, England, wants to swap news, views and old mags—his club with yours. Any takers?

Communication from Tom Ely, Rt. 1, Aitkin, Minn.: "I am a 13-year-old boy. I would like to correspond with a 13- or 14-year-old boy who is interested in WW 1 or WW 2 control line scale. Could you please help me out? P.S. Or girl." Now, Tom, do you mean a girl who is interested in WW 1 or WW 2 scale stuff or a boy interested in WW 1 and 2 and girls? Let's be specific!

Needs #1251. Benny Freedman, 1520-9th St., Douglas, Ariz., wants to build the Storey-Willard semi-scale "Korker" free flight model. It appeared full size on plan #1251. Anybody got? Let BF know, hey?

Locating Lost Models. Or is it worth it (subtitle)? All this comes from our friend Philip Hawker of St. George, New Brunswick (Canada, you dolt!). We always like to hear from Phil since he writes on "The Bank of Nova Scotia" stationery (founded 1832). About the nearest thing to a rich uncle we ever had—a friend with bank letterheads!

Mr. Hawker gives us an account of his radio control flight experiments (entertaining, erratic—and whose isn't) and model activity in the Maritime Provinces (at a pretty low ebb). Then he goes on to give us an account of how to locate lost models in the wooded wilderness. Well worth the price of admission. Draw up a chair:

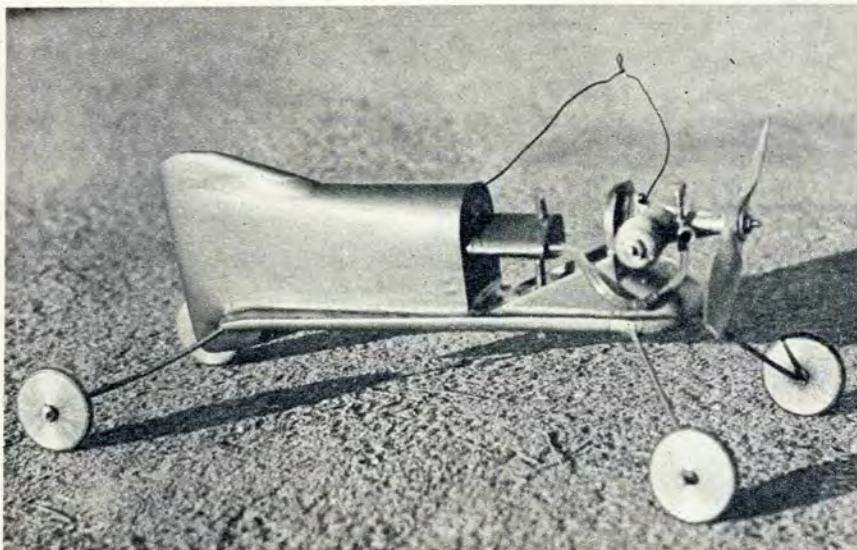
"By applying several principles of surveying together with other factors which I have picked up by hard experience I have evolved gradually a system for locating lost models in wooded areas. Like everything else it started out with a few simple facts and tools but has gradually evolved into a sort of Frankenstein! The 'Compleat Modeleer' should have besides his normal impedimenta the following gear—a field engineer's notebook with pencil, at least three bamboo lining-up poles, 100 feet of string, a prismatic compass, a 1 inch to the mile map of the flying site, three Boy Scout assistants, six triangles of brightly colored bunting, and a small hatchet. I recommend the Boy Scouts over men of riper years and also over younger boys. The latter are unduly optimistic at first, then get terrified as soon as they are deep in the woods. The former are unduly pessimistic and hanker after long amber-colored refreshments; after the first evidence of



Harriet Rosenblum of Tampa, Fla., holds husband Marty's 28" Chris-Craft "Supervisor." Twin DC motors, all working lights, fast mover. Hez in AF at McDill Field.



If we run a photo of a Mrs. (above) we've also got to remember the Misses (Miles.), too. Here's our nomination for prettiest queen of any model meet: Diane Forshay.



At Stuttgart, Germany, this diesel (compression ignition) engine of 6 c.c. displacement pushed car at 80 kph (kilometers per hour—we'll let you convert).

"Bare Essentials" is what Dick Everett named this Half-A powered air car. Did 47.3 mph with Mac diesel and 5/7 Tornado prop, "O" ring tires; 27 1/2" dia. circle.

game tracks they want to reminisce about their various hunting adventures.

"Since the retrieving system up here among the woods is rather involved it would be wise to cover the basic 'do's and don'ts': Don't chase the model into the woods while it is still in the air. Mark with a handkerchief the spot where you were standing when the plane disappeared. Make a sketch immediately of the place where the model disappeared, noting the position of the sun and the time of the day. Get the estimated position from another observer who was standing some distance from you. Don't be dismayed when his position fix disagrees with yours, since he was looking at the model from a different angle.

"Locate the exact position where the other observer was standing, marking the spot with a colored cloth held in position with a good-sized stone. Make a sketch of the area from his viewpoint, get him to place an 'X' where he saw the model go down. If it's within a half hour of sunset, don't plunge into the woods—especially alone—since you will only get yourself lost. Make sure you know the lay of the land.

"Most models are not as far away as they seem to appear. Try and time the whole flight even if it is only a rough approximation. Since nearly all models will circle, their relative ground speed is not much greater than 10 mph plus the speed of the wind drift. To the average modeler the wind scale is as follows: 20 mph, a hurricane; 15 mph, a strong gale; 10 mph, quite windy; 5 mph, a good breeze; 0 mph, an impossibility. Finally, if when last seen the model is a small dot on the horizon and high over dense woods the best policy is to go home and build a new one! Such is modeling in New Brunswick. . . ."

Ten Best Years. The Lake Erie (Cleveland, O.) Gas Model Club has a fine paper called the "Midwest Model Aircraft News." The second issue featured scale plans of the 1933 Pietenpol Sky Scout. Also the question, "What are the 10 best years of a woman's life?" Answer, of course, is, "The years from 28 to 30!" If you want to swap club papers you can contact the LEGMC's MMAN at 10310 Union Ave.

Mini-Miniatures. When Bill Ponder, a Field Service engineer with North American, needs a model of an N.A. plane for a bit of "homework" study he just ambles down the street a couple of houses and borrows one from Lloyd S. Jones, a 23-year-old hobbyist (not connected with N.A.). Only trouble with Jones' models is that they are so small. Built on a scale of one inch to every 20 feet, some of the scale plane models are no bigger than a packet of book matches.

Jones has a collection of every jet and turbo plane in existence. A partner in Clint's Camera and Hobby Shop of Los Angeles, he started his "miniature" model making when he found he didn't have the patience to complete larger models! Since starting his collection, he has been the subject of numerous articles and has shown his planes on TV programs. Lloyd values his complete collection at \$500 although they probably don't cost more than 5 or 10¢ apiece for materials and tools. Some day he hopes to market a model kit for his planes with specifications twice the (Continued on page 82)

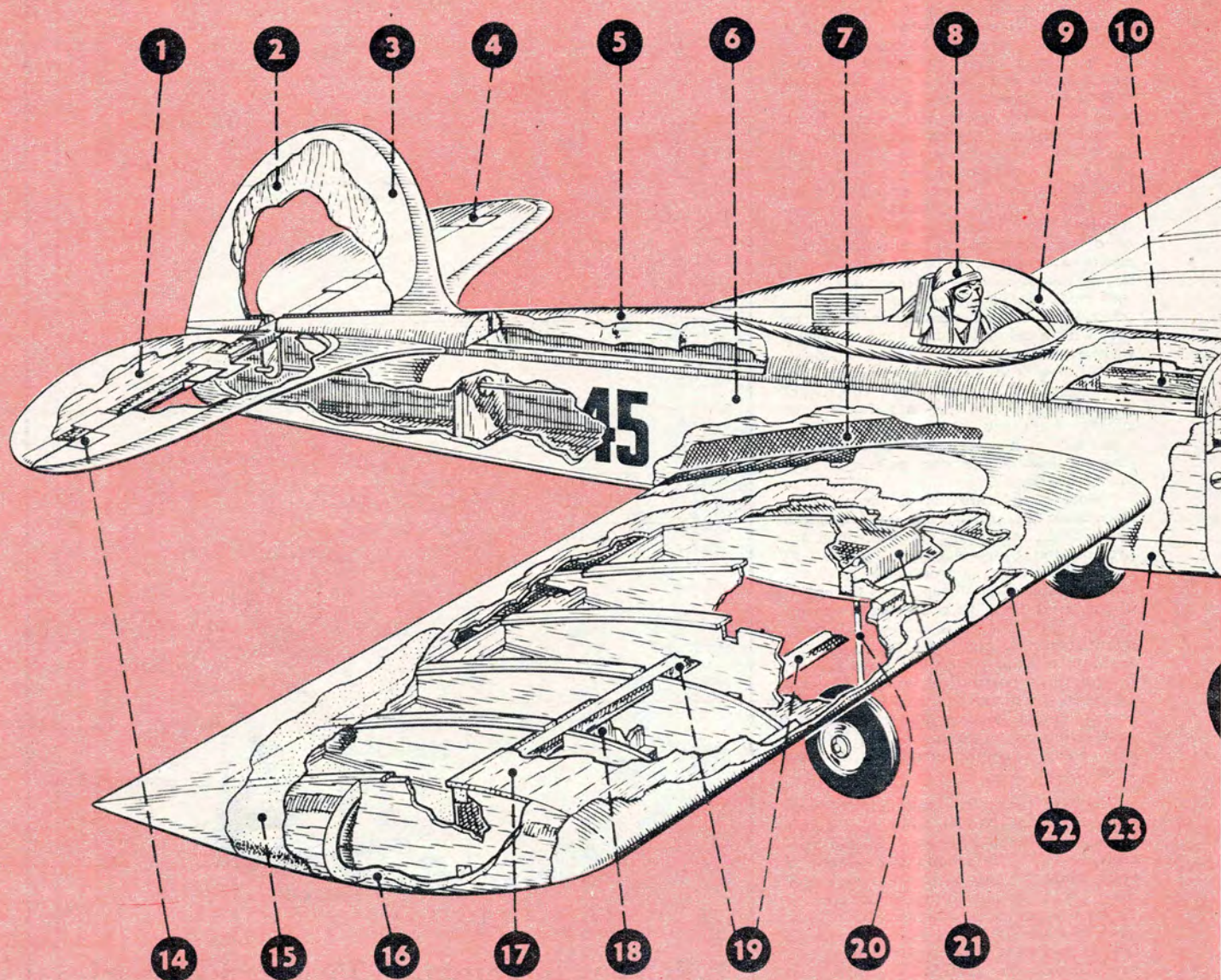
Nice shot of his Dumas Chris-Craft Challenger by Alfred Crisafulli, Garfield, N. J. Powered by 2 K&O motors; has 20 coats of Mr. Testor's white dope! 9½ mos. to build.



Hobbies in Action—\$25 Award Winner!

William E. Kocher of Baltimore walks off with the prize money this month for this fine shot of a helicopter in action. Note he "panned" to slow down the model. Give technical details on camera, speed, lens opening, etc., with your entries.





MARINE MODELER'S LATEST STUNT PLANE:

PRECISION AEROBATIC ACE

"Jamboree"

By LT. COL. H. M. BOURGEOIS, USMC



Dick Sherman tunes up the engine and prepares to let 'er go as Colonel "Hank" waits in center circle. Design goes back to early days of control line in San Diego.

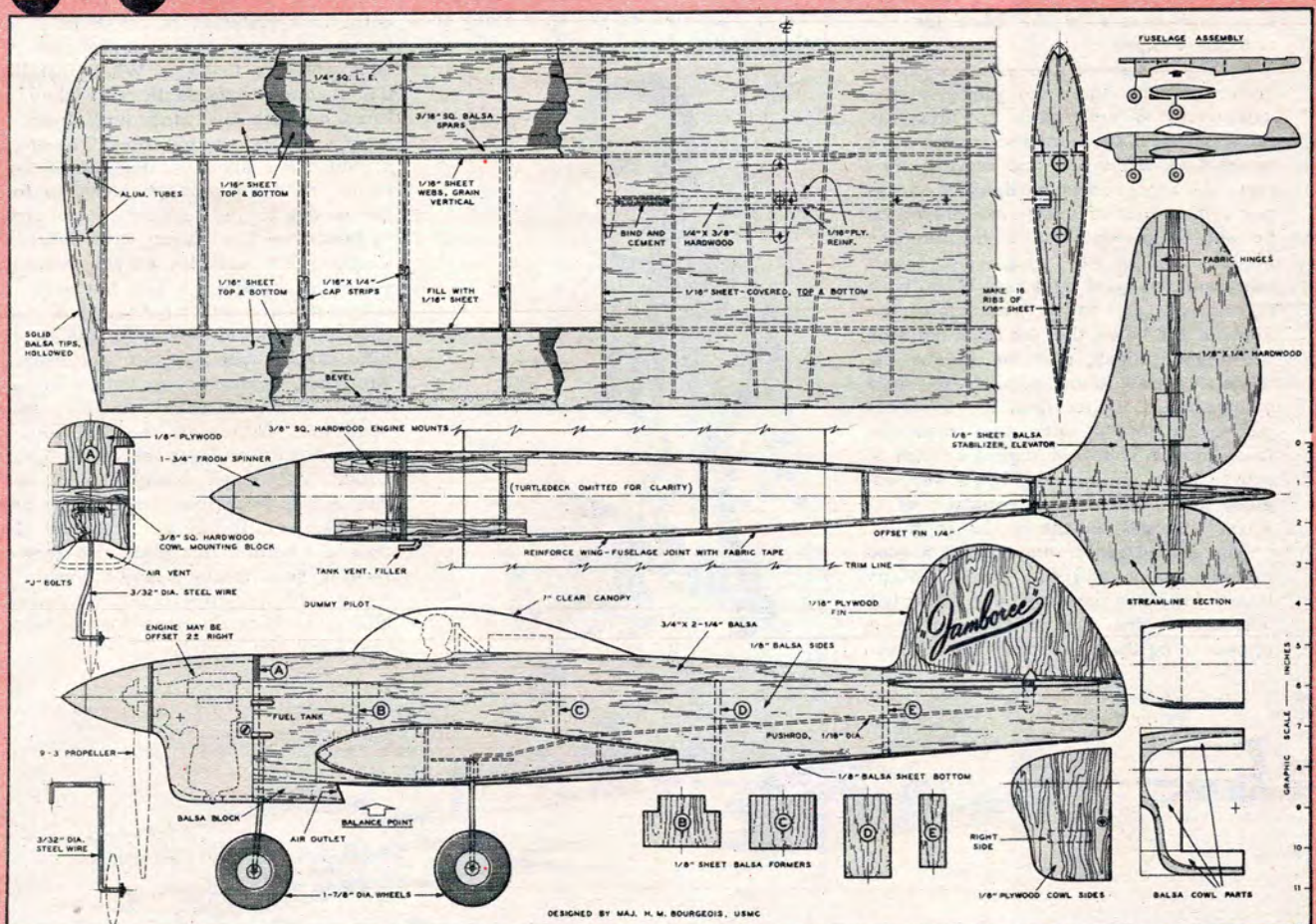
■ This gal is the fast-flying, high-performance, precision aerobatic model whose delightful dancing antics on the end of two silver lines, to the tune of a whining, screaming engine, will bring smiles to the face of any true modeler. Like most good-performing models it is the culmination of many designs. The original basic design was laid down by Keith Foster, with whom I had the pleasure of building, designing, and flying models for many years in San Diego. Although Jamboree is close to the final design, there is always some kind of improving

Noted designer of the "Jezebel" team racer is back with one of the prettiest stunters for engines in .19 to .23 group

The Precision Aerobatic "Jamboree"

1. $\frac{1}{8}$ " balsa elevators, stabilizer. 2. $\frac{1}{16}$ " plywood fin. 3. Surfer and finish coats. 4. Hardwood stiffener strip. 5. Solid balsa turtledeck. 6. $\frac{1}{8}$ " sheet balsa fuselage sides 7. Fabric tape wing-fuselage reinforcements. 8. Dummy pilot. 9. Clear plastic cockpit canopy. 10. Hardwood engine bearers. 11. $\frac{1}{8}$ " plywood firewall. 12. "Froom" spinner. 13. 9/3 propeller. 14. Fabric tape hinges. 15. Silk, nylon or heavy Silkspan covering. 16. Hollowed soft balsa tips. 17. $\frac{1}{16}$ " sheet balsa L. E. sheathing. 18. $\frac{1}{16}$ " balsa spar webs. 19. $\frac{3}{16}$ " sq. wing spars. 20. $\frac{3}{32}$ " steel wire gear struts. 21. Hardwood gear and control plate spar. 22. $\frac{1}{4}$ " sq. balsa leading edge. 23. Balsa cowl air outlet. 24. $1\frac{1}{8}$ " dia. streamline wheels. 25. Balsa and plywood cowling. 26. K & B Torpedo .19 or .23 engine.

Full-size plans for Jamboree are part of Group Plan #155 from Hobby Helpers, 770 Hunts Point Avenue, New York 59, N. Y. (50¢)



"JAMBOREE"



and redesigning to be done. Through the years the design progressed through all sizes and shapes in the hunt for the ultimate design.

As the design of the *Jamboree* progressed through the many phases of development, several basic requirements for a satisfactory aerobatic model were established. First and the most important: the model must be light; 9 ounces per square foot of wing area proved to be about the ideal for a medium-size model of about 40" wing span. Lightness demands good light firm balsa, both for strength and finish. The tighter the grain of the balsa, the less filler required for a good finish, and the lighter the model. It was found possible to build models much lighter than the 9 ounces per square foot of wing area. However, these models were not rugged enough to stand the vibration of high-power engines and the constant variation of G forces imposed on the model in flight.

The second requirement is for a good reliable engine and fuel system. Many types of engines were tried and discarded. The top engines for violent maneuvers appear to be the front rotary shaft intake

kind. Engines of the Torpedo, Fox, and Veco variety have well demonstrated their capabilities in contests throughout the nation. The fuel tank found here to give the most reliable constant fuel feed is the custom built "Master" stunt tank. This tank is available in many sizes, and when properly installed will make the most balky engine perform satisfactorily.

The last requirement is an airfoil of proper design. The airfoil shown is the result of many trials and tests of thick, thin, reflex, streamline, and unsymmetrical airfoils. It is of about 15% thickness, allowing enough depth for spar strength, and yet is not so thick as to slow the model in its maneuvers. Many versions of wing flaps were tried and discarded as unnecessary weight and complexity, contributing nothing to the performance of the model that proper design would not take care of. Extremely large elevators are unnecessary and add weight.

Streamlining and smooth finish do much to improve the model's performance and take only a little more effort to produce. It might be argued that the tricycle landing gear has more drag than the conventional two-wheel gear; though this is true, the most inexperienced modeler can make good take-offs and landings with the tricycle gear in the worst conditions of wind and terrain.

Construction of *Jamboree* is surprisingly simple and conventional except for the wing. This is by far the strongest and lightest wing I have ever produced. The wing should be completely finished before installation in the fuselage. Pin the bottom 3/16" spar to a board, place three or four ribs on the spar along its entire length. Using scrap wood, cut

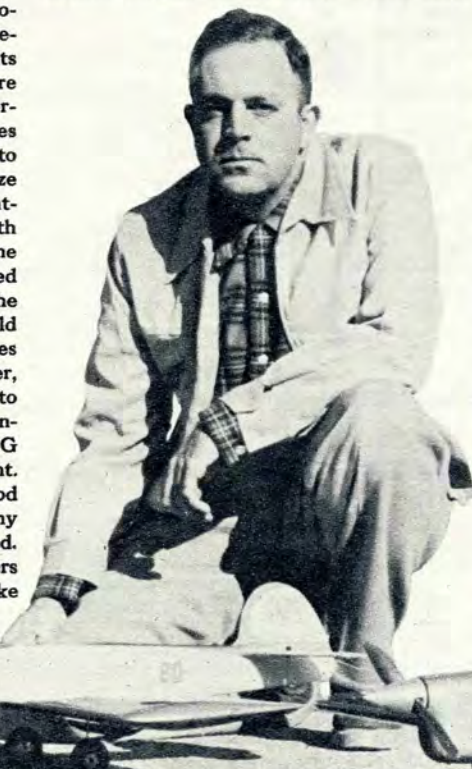
small wedges and block up the bottom 1/16" sheet trailing edge and glue all the wing ribs to the spar and the trailing edge. When all ribs are in place add the top 3/16" spar and glue in place. Now add the 1/16" sheet balsa box, backing between each rib, back of the spars, and between each rib over the front edge of the sheet trailing edge. Cement the top 1/16" sheet trailing edge on top of the ribs, and boxing. When this has dried add the leading edge and the top 1/16" sheet leading edge cover. The entire operation described above should be performed without removing the wing from the board. This will insure a straight, no-warp wing.

After removing the wing from the board, glue on the bottom 1/16" sheet cover on the leading edge of the wing. Mount the landing gear and the bell-crank on the hardwood sub spar, use plenty of glue and bind with thread, then install in the bottom of the wing. The center section can now be covered with 1/16" sheet balsa. Add caps and the wingtips, then the 1/8" aluminum tubing lead-out guides in the inboard wing tip. It has not been found necessary in this design to add weight in the outboard wing tip; however, the modeler may add 3/4 ounce of lead if he feels it necessary. After careful shaping and sanding cover the wing with a good grade of covering material.

The fuselage constructional details and the balance of the model can be easily determined from the plans. A few important points will be mentioned. After installing the wing in the fuselage, and filling the bottom of the fuselage with sheet material, fabric strips should be doped along the joint between the wing and the fuselage. When installing the elevator surfaces be sure they are lined up with the wing, both from the front view and the top view. The engine should have about 2 degrees of right thrust, rudder should be offset to force the model to the outside of the circle.

Jamboree has flown with both the Torpedo .23 and .19. If you are inexperienced in flying a fast hot aerobatic model it is recommended that you install the .19 engine. However, for the capable pilot the .23 will give best performance. My model performs best with a Tornado 9 dia., 3 in. pitch prop, using Supersonic 1000 fuel. Adjust the needle valve on the rich side of the peak rpm of about 12000. The model should balance about 1 1/2 inches back from the leading edge. Add weight inside the cowling if it balances behind this point. Be sure the landing gear tracks straight ahead.

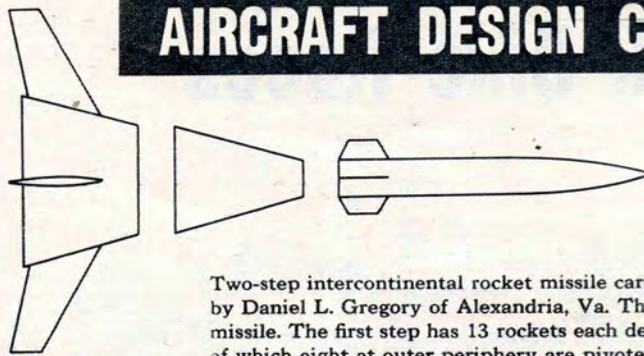
I would like to express my sincerest thanks to Dick Sherman for his help in preparing the models.



Designer Bourgeois with two "Jamborees" (right) and a team racer. "Hank" flies jet fighters and helicopters for Marines.

AIRCRAFT DESIGN COMPETITION

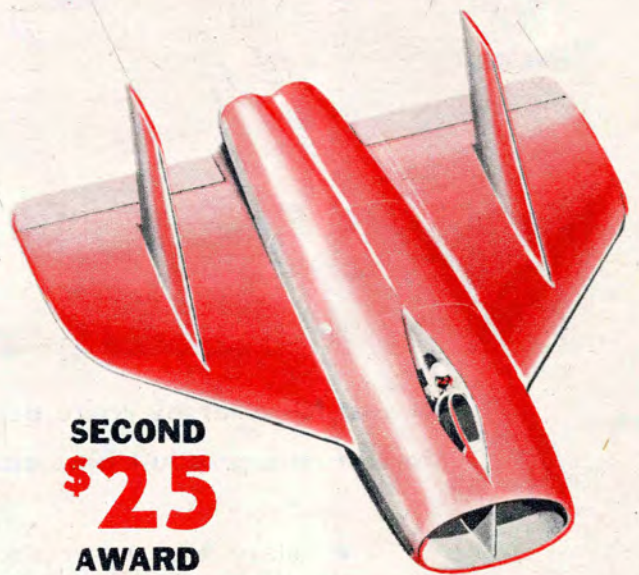
FIRST
\$50
AWARD



Two-step intercontinental rocket missile carrying an H-bomb warhead, by Daniel L. Gregory of Alexandria, Va. This is a ballistic, not guided missile. The first step has 13 rockets each developing 89 tons of thrust, of which eight at outer periphery are pivoted for steering. Second step has five rockets. Fuel for steps is alcohol and ozone, while the missile itself is powered by aniline-nitric acid rocket. Weapon reaches altitude of 1500 miles, has an effective trajectory of 8000 miles.

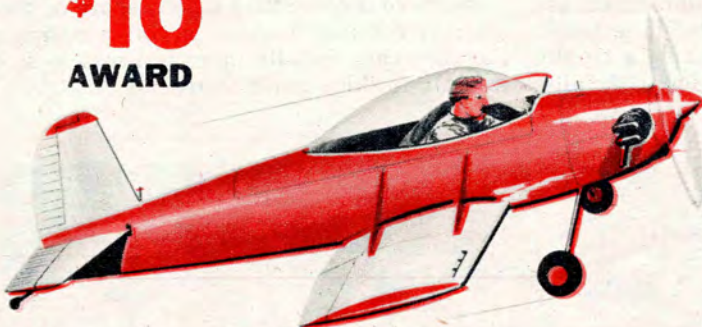


SECOND
\$25
AWARD



Twin-jet interceptor by Douglas Denison of Wichita, Kans. Plane is named the "Wichihawk" after Denison's model airplane club. Powered by two turbojets of 7200 lbs. thrust each and is capable of 800 mph. Aileron type controls at trailing edge of wing serve both as ailerons and elevators. Broad low-aspect ratio wing permits carrying large fuel supply. Armament: four 20-mm cannon and rockets.

THIRD
\$10
AWARD



Economy plane by Steve Morey of Youngstown, Ohio. A single-place, ultra-light sport aircraft featuring prone cockpit. Powered by 25 to 35 hp two-cylinder engine. Landing gear is flexible rod as developed by Steve Wittman for his Buttercup. Plane equipped with wing flaps, slots and fuselage dive brake. Pilot lies on plastic air mattress. Wingspan is 18 ft., length 13 ft. Top speed 90 mph.

Rules governing this "aircraft of the future" competition are as follows: Three-view sketches of the envisioned aircraft will be required. These should be not less than 8½ x 11 inches for the entire three views. Give sketches of the complete airplane or space craft in three-quarter front and rear positions. Photos of a model of the proposed design may be included. Informa-

tion on the powerplant(s), estimated performance, dimensions, and explanations of any unusual features are required. Data as to age, occupation or schooling of the entrant will be welcomed by the editors and judges. The design may be of any type; space craft, commercial, military planes (fighters, bombers, troop transports), planes for the private flyer and sporting

or racing airplanes. The entry each month judged the most practical or of the greatest significance will receive an award of \$50; \$25 for second place and \$10 for third. Mail entries to Airmen of Vision, c/o Air Trails HOBBIES for Young Men, 304 E. 45th St., New York 17, N. Y. The editors regret they cannot enter into any correspondence on submissions.

Stock Bike Races



Are Fast And Furious Fun

Newest New Jersey craze gets cycle enthusiasts off to early start in racing; adult bike club members direct junior event

■ Somerville, N. J., is one town where they take the bicycle to heart. Aside from its national prominence as the site of the annual "Tour of Somerville," a 50-mile jaunt second only to the national championships, it is the scene of some real bicycle mania on the part of the town's younger riders.

Referee'd by Fred "Pop" Kugler, coach of the Somerset Wheelmen, regular races are held at the high school's quarter-mile track. At the end of each season of racing a trophy is awarded to the grand champion. Officially,

these events are known as stock bike races. This means that any bicycle (but not racers) may be entered in the competitions.

As referee, Pop Kugler blows the starting whistle and times the winners as they come across the finish line. When technical questions are in dispute, he settles the issue with a well-informed word. Accompanying each race there is more than a good share of shouting, screaming, urging on of winners and laggards. Occasionally there is a smack-up due mainly to skids around turns.



In the one "open" race of the day any age rider can participate. Foursome, unevenly matched in size, has same wheel diameter, so it's fairer than it looks.



Close finish has leaders racing down the final stretch. Expressions are enough to qualify both for a 1st. These bikes have front mudguards removed.



On your mark . . . Start of race with "Pop" Kugler handling the whistle chore. Here the contestants are matched by age, not by wheel size.

Seasonal champ's trophy gets the critical eye by aspiring riders. A series of races throughout year determines community's top junior wheelmen.



Winner of the spirited dash (top, left) crosses the finish line to the cheers of the spectators. Plenty of promotion and publicity build bike race interest.



Coach Fred Kugler of the Somerset Wheelmen club shows stock race riders how to adjust for best racing.

The "quick start" (right) is a Somerville specialty and is used in special events. Race accidents are rare (below), but even then no one was injured.



JOB CAREER SCHOOL GUIDE FOR YOUNG MEN

Ten Scholarships Worth \$350 to \$800 Per Year for 4 Years are now being offered to high school seniors in the New England States by the New England Textile Foundation. The amount depends on what State you come from and what college you choose—you are limited to four: Bradford Durfee Technical Institute (Fall River, Mass.), Lowell Technological Institute, New Bedford Textile Institute, or Textile School of Rhode Island School of Design (Providence). You must be interested in a textile career, be recommended by your school principal, and pass the College Entrance Examination Board test involved.

At present the textile industry ranks high in number of employees. Graduates of the four-year courses represented by the above schools are practically certain of jobs for years to come; today's shortage of graduates needed is several hundred per year. In these scholarships, you may choose your own kind of course for becoming a textile executive—you may specialize in chemistry, design (fabric), production or merchandising. (Note: these scholarships do not include courses in clothing design.) All Scholarship applications must be received by Jan. 15, 1955. For blanks and rules booklet write to New England Textile Foundation, 31 Canal St., Providence 3, Rhode Island.

How Do Correspondence Schools overcome the problem posed by the need for laboratory or shop experience in certain courses? This one is often asked. Many courses furnish training kits, such as those in locksmithing, watch making, radio and television. (In radio repair, for instance, you are usually sent enough materials and tools to build a radio receiver.) Kits of materials are also received along with your lessons in a number of drafting, chemical and other laboratory courses.

But suppose you're studying diesel engines? In cases where the equipment is a bit too large or expensive to be mailed you, the home study schools teach only the theory part—and then, in many instances, bring you to their resident schools for several weeks of intensive practical training with said equipment in their own shops and labs. Again, the schools may enroll only those who have access to the necessary equipment in their present jobs or through local affiliations.

Nor are films and other audio-visual aids neglected. More and more schools are lending these in connection with various subjects, along with projectors. (One course includes 16 reels of ani-

mated drawings showing processes like the flow of electricity through circuits, generators and electronic tubes.)

Scholarships in Electronics Study will again be awarded in 1955 by RCA Institutes in New York City. This long-established radio and television school (the plural name stands for a single technical institute operated as a general public service by RCA) offers three competitive scholarships for its 2¼-year Advanced Technology Course (or any of its regular lesser courses including those in maintenance and repair) to any high school senior of American citizenship who is duly recommended by his principal. The scholarships cover tuition and books. In the case of the highly recognized Advanced course, which fits you for top-scale electronics work in government or industry, tuition is ordinarily \$1440 and books amount to about \$200. Note, however, that awards do not include living expenses. (You'll have to take this into account if you live beyond commuting distance.) Candidates must appear in New York City to take the examination in April (exact date to be announced later) whose results determine the three winners. If interested, you must first get the recommendation of your school principal. Have him contact the Scholarship Committee, RCA Institutes, Inc., 350 W. 4th St., N. Y. C. 14.

A Government Book that might help you, if you are thinking of a career in electronics, is that titled "Advanced Mathematics for Electronics Technicians." Although this 318-page illustrated publication was prepared for Navy use, the information is just as pertinent in civilian electronics work. It covers the practical application of geometry, mechanical drawing, graphic representation, trigonometry and vectors in the fields of electricity and electronics. It contains elementary treatment of integration and differentiation in calculus and electronic circuits, and math tables. Price is \$1.25. Give title and Catalog No. D208.11:M42, and address your order to Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

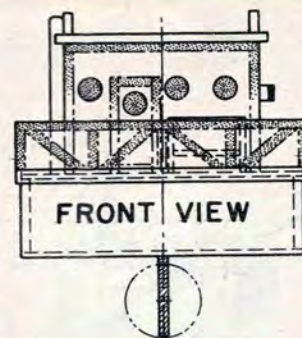
Those interested in construction and engineering as a future career may wish to get a GPO manual called "Blueprint Reading." This presents an introduction to the various kinds and uses of blueprints, then goes into a detailed discussion of lines, sections, dimensions, conventions, notes and titles—the vocabulary of blueprints. There are sections on layout tools and geometry, and the techniques of wiring and schematic diagrams are introduced. Illustrations, 283 pages. Price \$1. Give Catalog No. D208.11:B62. Order from Superintendent of Documents etc. as above.

Another GPO publication, which you might tell school authorities about, is "A Directory of 2,660 16-mm Film Libraries" (in this country). Arranged alphabetically by cities within the states, the listing gives the number and nature of the pictures available in each case and what restrictions if any apply to their distribution. This directory would also come in handy for your hobby club or any organization interested in using movies of an informational nature. The Catalog No. is FS 53:953/7, and address same as above. Price 50 cents.

Remember, anybody can buy Government Printing Office publications.

Survey on Engineers undertaken by Stevens Institute of Technology, whose results were announced recently in the

(Continued on page 69)



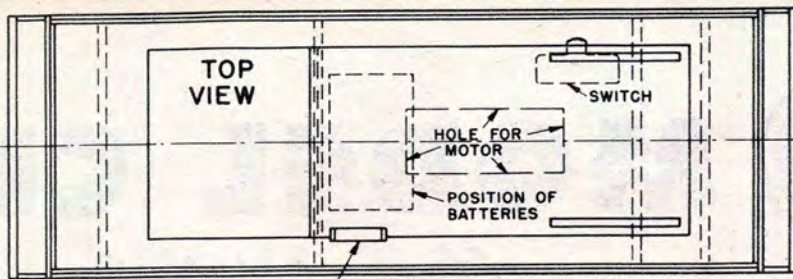
Little Arky

No run-of-the-mill cabin cruiser is this! Ultra easy construction will enable you to be waterborne soon; R/C men can double size easily

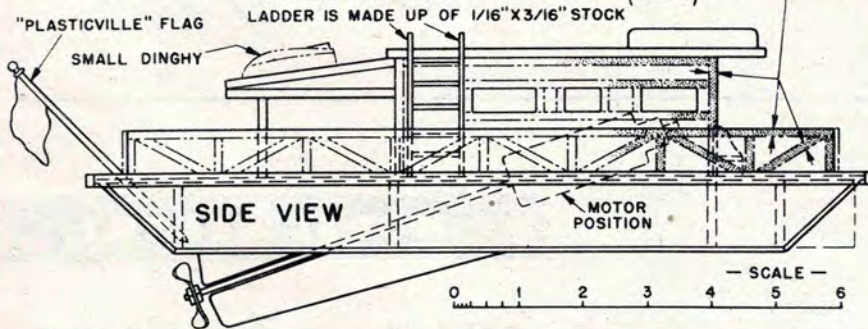
■ This Arkansas houseboat model serves a twofold purpose. Built as a 12-incher it gives novice boat builder a simple project with which to get afloat. By doubling the size to 24 inches, the radio control enthusiast can produce in quick order a most attractive R/C boat!

"Little Arky" uses the 4½ volt Polk-Distler electric motor coupled to a Scientific shaft and prop. This economical powerplant gives long battery life. Six 1.5 volt penzell batteries are hooked up in an aluminum battery box—three in series are paralleled with three others in series to furnish the needed 4.5 volts. Balance the boat to ride evenly in the water by shifting the battery box. For a 24-in. slow-moving "R/C Arky" double all wood sizes, use a Pittman motor coupled to a Sterling Nylon prop and shafting. Motor can be reversed remotely for forward and backward operation.

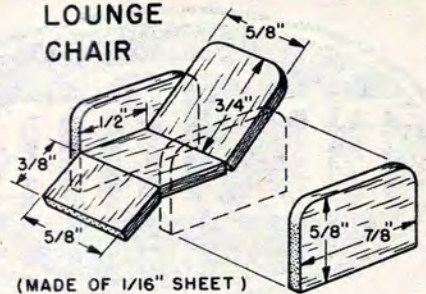




DECORATIVE 1/16"X1/8" STRIPS ON CABIN AND RAIL SIDES ARE INDICATED BY PHANTOM LINES (---)



LOUNGE CHAIR

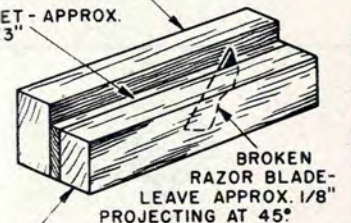


(MADE OF 1/16" SHEET)

"HOME-MADE" STRIPPER

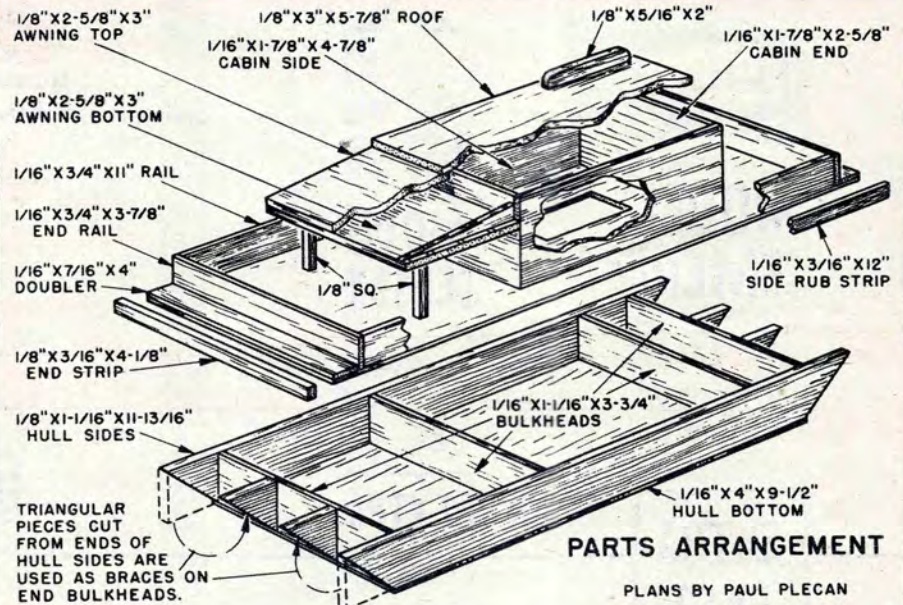
SCRAP BLOCK - APPROXIMATELY 1/2"X1"X3"

1/8" SHEET - APPROX. 3/4"X3"



1/2"X3/4"X3" SCRAP BLOCK

Full-size plans for building Little Arky are a part of Group Plan #155 available from Hobby Helpers, 770 Hunts Point Ave., N. Y. 59, N. Y. (50c)



PARTS ARRANGEMENT

PLANS BY PAUL PLECAN





MODEL CEMENT

the right formula for



MODEL CEMENT

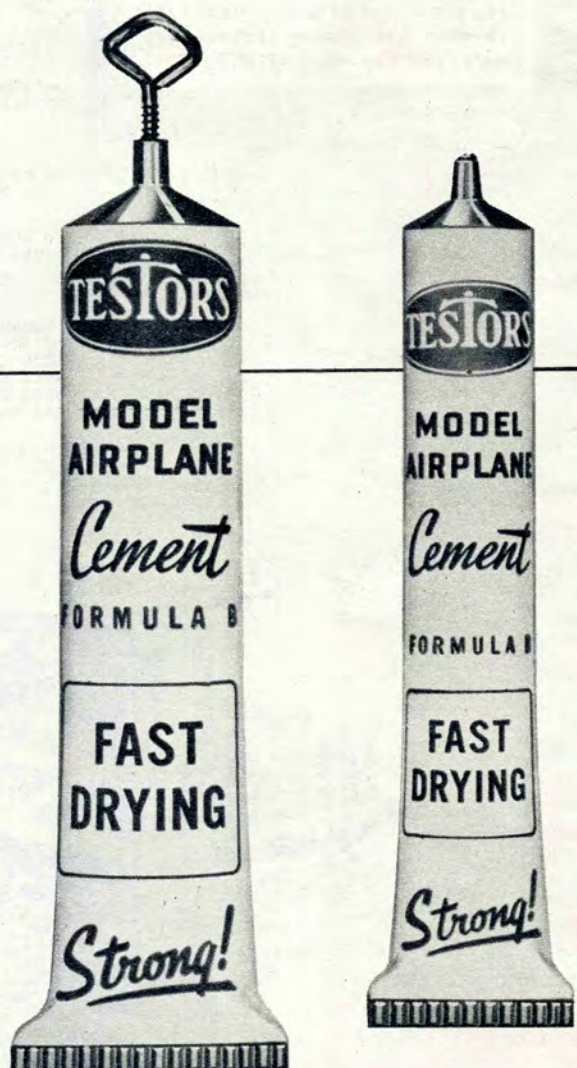
FORMULA "A" *Extra Fast Drying*

... for quick, easy construction of light-weight models and for on-the-spot repairs. *Guaranteed hot fuel proof.* Available in 15c and 25c tubes.

MODEL CEMENT

FORMULA "B" *Fast Drying*

... the strongest for balsa or hardwood ... for metal to metal ... for metal to wood ... for all general work. Available in 15c and 25c tubes.

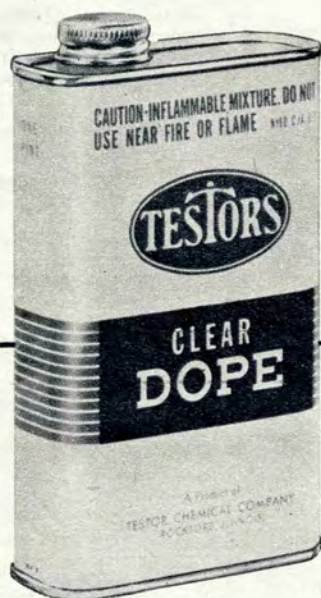


PAINTS AND DOPES...

for every job you do!

REGULAR DOPE

...has no equal for fine hiding power, easy brushing or spraying, controlled shrinkage, excellent rubbing qualities, high flexibility, film toughness, pure color brilliance. Available in 15c and 40c (1/4-pint) bottles; Clear, Thinner, and Sanding Sealer also come in pint cans. Your choice of 30 colors, including official Army-Navy aircraft colors.



BUTYRATE DOPE

...an outstanding formulation. Has *all* the superior qualities of Testor's *Regular Dope* plus the added special feature of being *hot fuel proof*, too! Available in 1/4-pint bottles at 50c; Clear, Thinner, and Sanding Sealer also come in pint cans. Your choice of 15 colors.

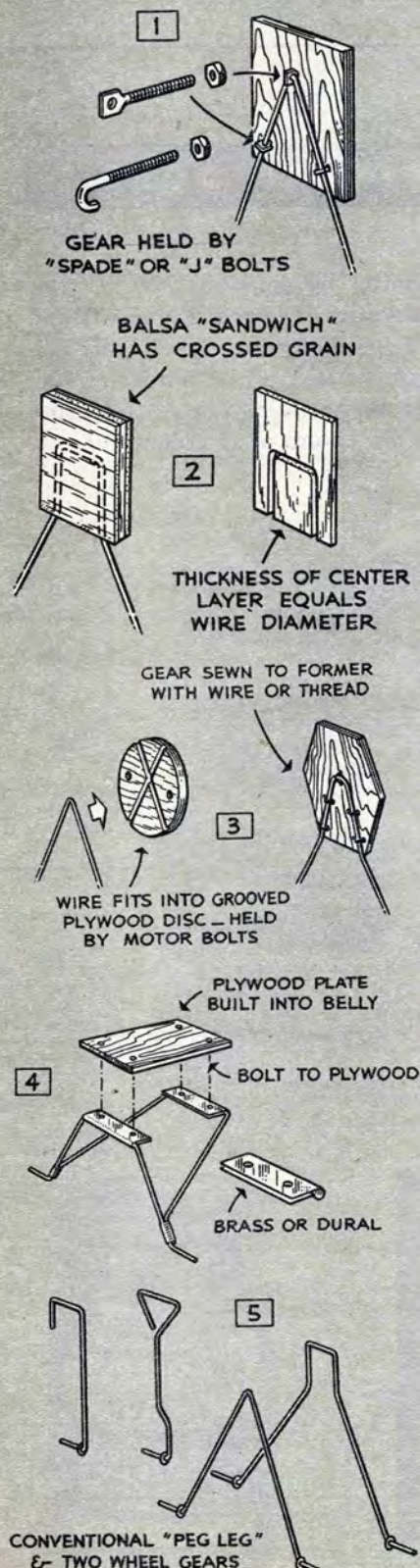


**TESTOR
CHEMICAL
COMPANY**
ROCKFORD
ILLINOIS



Landing Gear Construction and Installation for Modelplanes

Better undercarriages mean longer lasting models; Part Two of ATH's "I.g." report



■ Simplest wire landing gears for flying gas models, free flight and control line, are those which are bolted to firewalls or main fuselage formers. (1) "J" bolts and "spade" bolts are available for easy, efficient mounting. Struts are often bound and cemented to cross members in fuselage and sometimes are sewn to firewalls with wire or heavy thread.

The landing gear "sandwich" is practical for rubber or gas models. (2) Several layers of balsa or plywood are cemented together with the gear notched into the center layer. The completed "sandwich" can be built into the body as an integral part.

Radially-mounted engines, held by two or more bolts, afford another easy attachment (3) by simply placing the gear—with some method of assuring correct positioning—between engine and firewall where the engine mounting bolts lock the entire assembly together.

Heavy-duty, double-strut landing gear (4) popular in radio control models can be bolted to fuselage belly on a flush-mounted plywood base. "J" bolts or metal brackets and bolts can secure it. An important advantage is that it can be removed for transportation or for repairs.

Wire struts can be formed to various shapes to facilitate easiest mounting. (5) Always remember to avoid abrupt bends at angles. Suitable washers, soldered neatly on each side of wheel on the axle, should allow slight side play.

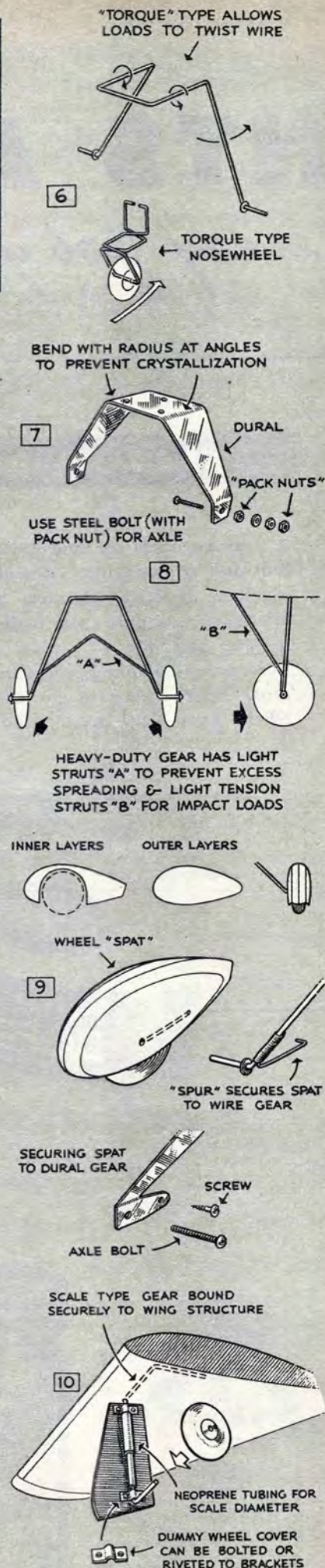
Great flexibility and shock-absorbing abilities are arguments which favor a torque type gear. (6) In this case the landing shocks are mainly absorbed by a section of the wire which is arranged to twist under load. A more popular variation is the nose gear design for tricycle landing gears, originated in England, in which the struts are crossed several times to achieve the same torque action.

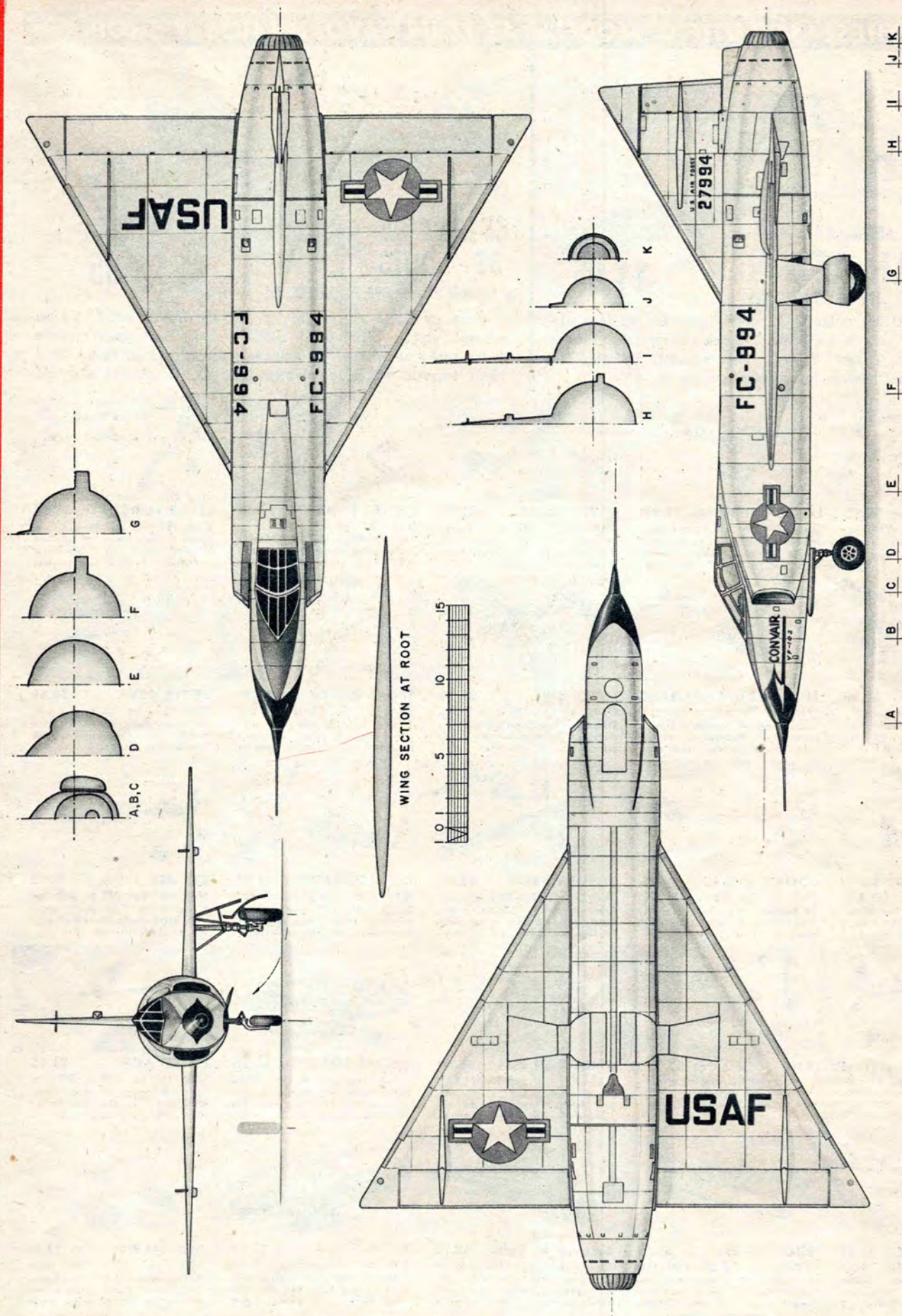
Proponents of dural gears (7) favor the deadening effect on landing shocks of this material as contrasted with the springy recoil of steel wire. Again it is important to bend the angles with small radii in order to avoid crystallizing or fracturing the metal, particularly the dural of higher temper.

In mounting, the dural is bolted or screwed to a plywood or hardwood insert in the fuselage bottom. Steel bolts serve as axles and may be built up in diameter if necessary with thin wall metal tubing to fit the wheel axle hole snugly. Dural gears are well suited appearance-wise for team racers, scale models, and realistic stunt ships.

When model weights rise above three or four pounds (large free flights and radio-control models) wire gears need extra reinforcement against the outward-spreading weight loads and the rearward-landing impact shocks. (8) An inverted "V" strut of fairly light steel wire, added to the main struts, gives support yet allows the gear to remain flexible and shock-absorbing. Rather than use a stiff compression strut behind the gear legs (for rearward landing impacts),

(Continued on page 70)





First USAF true delta wing production fighter, the F-102 is the direct descendant of the experimental research XF-92A which made its first flight in September, 1948. The F-102 is powered by a Wright J-57 turbojet rated at 10,000 lbs. thrust.

An afterburner gives it an additional boost. The airplane is designed to serve as an all-weather interceptor, is capable of supersonic speed and can operate at altitude of well over 50,000 feet. Later production models will have more powerful engine.

Convair F-102 Delta Wing Fighter

SCALE VIEWS BY JEFFERIES

SEE THESE SCIENTIFIC MODELS AT YOUR FAVORITE HOBBY SHOP



NORTH AMERICAN TEXAN AT6

\$1.95

18" WINGSPAN FOR .035 TO .074 ENGINES

Here's our authentic scale replica of the world famous U.S. Air Force AT6 Trainer. The Navy calls it their "SNJ". Modelers everywhere call this exciting control-liner a real "thriller". The completely prefabricated kit includes: carved balsa fuselage, formed wing, cowling, etc., etc.



SPIRIT OF ST. LOUIS

\$4.95

26" WINGSPAN FOR .099 TO .23 ENGINES

If you're an A or B class engine fan . . . this is your model. It's our extremely popular "SPIRIT OF ST. LOUIS" . . . the most famous airplane in the history of aviation. Authentically scaled, of course! Deluxe kit is 100% complete, with a carved balsa fuselage, 1-pc. airfoiled wing, etc.



F-82 Twin Mustang \$2.95

SPAN: 18" For .035 to .074 Eng. No. 1 Amer. fighter model powers with 1 or 2 engines. Prefabbed, with 2 carved fuselages, 2 cowls.



LITTLE MUSTANG \$1.95

SPAN: 18" For .020 to .074 Eng. Famous escort fighter model. Completely prefabricated. Features carved balsa fuselage, formed balsa wing.



LITTLE SABRE \$1.95

SPAN: 18" For .020 to .074 Eng. In honor of the F-86 (Sabre Jet). U-Control model. All parts cut and shaped for easy assembly.



LITTLE STINKER \$2.50

SPAN: 16" For .020 to .074 Eng. Betty Skelton's (PITT'S SPECIAL) championship stunt flyer. Highly colorful . . . all prefabricated model.



LITTLE MERCURY \$1.50

SPAN: 18" For .039 to .074 Eng. Carved fuselage model, an excellent U-Control flyer. It's completely prefabricated. A cinch to assemble.



WACO CABIN \$1.50

For .020 to .049 Engines. Imagine! This carved fuselage bi-plane "beauty" for only \$1.50. It's semi-scale. Prefabbed for U-Control.



MONOCOUPÉ 90A \$1.50

SPAN: 18" For .035 to .074 Eng. Scale model of America's favorite private plane. Prefabbed kit includes carved balsa fuselage, formed cowl.



LITTLE BIPE \$1.50

SPAN: 16" For .020 to .074 Eng. Carved balsa fuselage bi-plane . . . prefabricated for easy assembly. It's control-line. A real value!



SPORT RACER \$1.50

SPAN: 18" For .020 to .074 Eng. A good U-Control performer at a remarkably low price. Completely prefabricated kit. Easy to assemble.



LITTLE DEVIL \$1.50

SPAN: 18" For .020 to .074 Eng. An economically priced U-Control model. Prefabbed parts include: formed balsa fuselage & wing, etc.



BEECHCRAFT "17" \$2.95

SPAN: 16" For .045 to .099 Eng. U-Control, prefabricated model has carved balsa fuselage, formed balsa wings, metal cowl, etc., etc.



BOEING P-26A \$2.95

SPAN: 18" For .020 to .074 Eng. An excellent control-line flyer. Prefabricated kit is complete in every detail . . . all parts finished.



BOEING F4B-4 \$2.95

SPAN: 17 1/2" For .020 to .074 Eng. Brand new deluxe U-Control model. 100% complete with carved balsa fuselage, wings, etc.. A real "honey".



CURTISS HAWK \$2.95

SPAN: 17 1/2" For .020 to .074 Eng. Deluxe U-Control model. 100% complete - with carved balsa fuselage, wings, etc. Easy to assemble.



BEL AIR \$2.95

SPAN: 18" For .039 to .099 Eng. A control-line flyer that's loaded with flying thrills. Prefabbed model has all parts finished.



F-86 SABRE & F-51 MUSTANG -- Both for \$1.50
Our sensational 2-in-1 kit. Contains two complete, realistic profile models. Both control-line flyers take .020 to .074 engines . . . both have 18" wingspans. Not one, but two complete models . . . make and fly both . . . for only \$1.50.



AMERICAN BOY \$1.00

SPAN: 18" For .020 to .074 Eng. Our U-Control trainer . . . the biggest dollars worth of model airplane in the world. 100% complete.



DREAM BOAT \$1.95

1/2" A" Eng., CO₂, or Elec. Motors. Our exclusive aeronautical fin and rudder design. Prefabbed model has 12" carved balsa hull, etc., etc.



LITTLE ACE \$1.95

SPAN: 18" For .049 to .099 Eng. For team racing or sport flying. Kit is 100% complete with formed fuselage & wing, metal cowl, etc.



LITTLE BUCKEYE \$1.95

1/2" A" Eng., Jetex, Elec. Motors. New, low cost speedboat thriller. Completely prefabricated, 12" carved balsa hull, brass metal fittings, etc.



BUCKEYE JR. \$3.50

LENGTH: 14" For .020 to .074 Eng. A "beaut" of a speedboat. Prefabbed model is 100% complete - carved balsa hull, brass fittings.



Buckeye Jr. Cabin \$3.95

For 1/2" A" Eng., Electric Motors. Here's our sleek cabin cruiser. Has a removable balsa cabin, 14" carved balsa hull - 100% complete.



RIVIERA \$3.50

For 1/2" A" Eng., Electric Motors. Authentic Chris-Craft replica with a 12" carved balsa hull and brass metal fittings. All parts finished.



SEA HAWK \$2.50

1/2" A" Eng., CO₂ or Elec. Motors. Prefabbed. Has a 12" carved balsa hull, brass metal fittings, etc. Aeronautical fin and rudder design.

See the complete line of Scientific models at your favorite Hobby Shop.

SCIENTIFIC

FREE

Brand new, 2 color illustrated catalog of all the Scientific models: airplanes, speedboats, race car.

If no dealer is available, add 10c (postage & packing) to cost of model

SCIENTIFIC MODEL AIRPLANE CO., 113 AT MONROE ST., NEWARK 5, N. J.

BE SPECIFIC . . . SAY

BRAND
NEW

ONLY
\$

1.95

SCIENTIFIC

U-CONTROL



"SECRET WEAPON"

GREAT B-I-G 24"
WINGSPAN

15" LENGTH • 4" AIRFOILED WING

3 MORE BRAND NEW SCIENTIFIC SMASH HITS

FOR CLASS "A"
ENGINES
.09 TO .19

Introducing our brand-new "SECRET WEAPON" . . . an exciting profile model for all your experimental work. Honestly, you'll love this inexpensive trainer for testing new flying techniques, combat or stunt flying, etc. It's exceptionally rugged, extra-strong to really "take it." The completely prefabbed model (100% complete) assembles in a jiffy. See it at your dealers . . . soon!



U-CONTROL

KELLETT AUTOGIRO

18" WINGSPAN FOR .020 TO .074 ENGINES
Authentic scale replica of this famous forerunner of modern day helicopters. You fly it just like any other control-liner . . . and get the big extra thrill of real whirling rotor blades. It's easy to assemble & fly. Prefabbed model has a formed metal cowl, airfoiled wing, carved fuselage, struts, rotor blades, etc.

\$1.95



"TORPEDO" OUTBOARD SPEEDBOAT

20" LENGTH 8" BEAM

Outboard engine fans . . . this is your speed. Power it with any of the popular outboard engines (gas or electric) and you've got a sleek 20 inches of "greased lightning" in the water. The model is super-prefabricated for quick, easy assembly. It features a genuine mahogany veneer hull, just like full size speedboats.

\$2.50



SUPER *half-pint* RACER

LENGTH 9" For Small Bore Gas Engines
Here's our extremely popular race car. It actually speeds up to 40 m.p.h. — races on any smooth surface. The model features a direct wheel drive (no complicated gear mechanisms). The all-prefabbed kit (100% complete) includes: 2-tone painted body, 4 racing-type rubber wheels, brass bushings, brass fly-wheel, etc., etc.

\$2.95

SEE THESE SCIENTIFIC MODELS AT YOUR FAVORITE HOBBY SHOP

BE
SPECIFIC
SAY—

SCIENTIFIC

If no dealer is available, add 10c (postage & packing) to cost of model
SCIENTIFIC MODEL AIRPLANE CO., 113 AT MONROE ST., NEWARK 5, N. J.

BUILD A REAL SCALE SOLID MODEL AIRPLANE



Here are real scale models worthy of the name, not a few pieces of plastic that stick together in 5 minutes and look like a dime store toy. Fully carved fuselage, shaped wings and empennage—jampacked with metal castings—every item that can be reproduced—is given to you.

F8F Bearcat	2.75	P-51 Mustang	2.75
F4U Corsair	2.75	P9F Panther	2.75
F9F Cougar	2.75	F-86 Sabrejet	2.75
FW-190 Focke Wulf	2.75	F-80 Shooting Star	2.75
F6F Hellcat	2.75	British Spitfire	2.75
P-38 Lightning	3.50	P-47 Thunderbolt	2.95
ME-109 Messerschmitt	2.75	F-84 Thunderjet	2.75
MIG-15	2.75	F-82 Twin Mustang	3.50
P-40 Warhawk	2.75		

17' INBOARD CHRIS-CRAFT SPORTSMAN

\$4 95



One inch scale. Here is a flashy, fast and rugged inboard, super de luxe in appointments. Easy to build, with completely carved hull, die cut mahogany deck and plastic windshield. 26 beautiful metal fittings: windshield brackets, steering wheel, clutch handle, stern light, boat hook, fire extinguisher, propeller shaft, stuffing box, step plates, hoisting rings and working anchor. All you need is your engine and fly wheel.

LAYTON SKIFF

\$1 95



Here is a big, inexpensive skiff designed for the electric or 1/2 A engines, easy to assemble, complete to the oars. Length 17", Beam 7", Freeboard 3". Die cut Balsa construction. Eleven metal fittings including oar lock sockets, oar locks, cleats, chocks, anchor and fire extinguisher.

OUTBOARD RUNABOUT **\$3 95**



16 Foot Deluxe Outboard Runabout designed expressly for the new 1/2 A outboard engines! 16 inches by 6, fully carved and shaped. No other scale kit has ever been so easy to put together, SO PERFECT IN OPERATION. Detail Galore . . . Chocks, cleats, bow and stern running lights, boat hook, oar locks, fire extinguisher, working navy anchor—15 beautiful metal castings of the kind Dyna-model is famous for.

If no local dealer is convenient, mail orders will be filled. Please include 25¢ for packing and postage. No C.O.D.'s.

DYNA-MODEL PRODUCTS COMPANY
76 SOUTH STREET, OYSTER BAY, NEW YORK



■ Yes, we have a new name, but you'll find here all the news and info on model boating that you had been getting under the old "Aqua-tivities." That name covered our contents perfectly; trouble was some of the less hep readers seemed to expect we would have news and pix of bathing beauties in the Column—hence the new title, which we'll use from now on. And remember we pay \$10 for pictures used here; \$10 to \$25 for hints and kinks published.

Home-made Flywheels. While some manufacturers of Half-A engines offer flywheels, most do not, but it is quite easy to make your own (Fig. 1). Take a lid from a small can and melt enough solder to fill it. Drill it out for the crankshaft, and there you are. Needless to say, some care should be used to be certain the wheel turns true, and that it is closely balanced. If the latter is not the case, the engine is apt to jump right out of the boat! Frank Frazier (Magruder Rd., Kevil, Ky.) who told us of this one, uses a simple spring-type universal joint, which slips tightly on the shaft of the engine, after the flywheel and nut have been tightened.

Simple Lighted Bow Lamp. Here's a suggestion (Fig. 2) from PFC Charles Dern (29th Sig. Det., 549th AAA Bn., Fort Bliss, Texas). He hollows out the front end of a standard cast metal lamp, using saw, files, etc. Then a divider is put in, leaving room in back of it for a "pea lamp." Colored plastic over this lamp completes the job, which really peps up a model boat, especially for exhibition, or if you can run it at night.

Hold That Rudder! All sorts of weird schemes are seen fitted to boats, designed to hold the rudder firmly at a given angle. Jerry Vineyard (Dixon, Mo.) observes that many boats are marred by a big rudder crank sticking out like a sore thumb at the stern; he holds his rudder as shown (Fig. 3). Telescoping tubing is used for both parts, and to change setting just pull rudder down a trifle and move as desired.

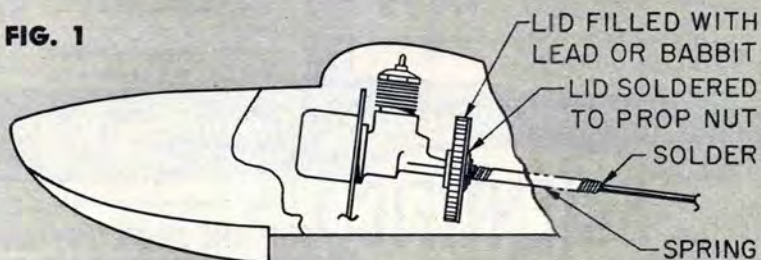
Can be set from above, too, if you don't want to get your hands wet.

Speaking of rudder tubes—and prop shafts, as well—there is a trick we have found that helps to hold them in place better. The idea is just to solder a flat washer to the tube very close to the lower end. Washer fits flush up against the hull bottom, and provides a much larger surface for cementing. If you use this on prop shaft, washer hole will have to be made oval, so it can go on at the required angle. Another thought, which makes for a firmer cemented joint between these tubes and the wood of the boat, is to roughen the tubing with a coarse file, before it is installed; just scrape the file over the tube surface, so that latter is covered with a series of deep scratches—they enable the cement to get a better hold on the tube, preventing it from coming loose under vibration or handling.

Speed Boat Race results have come from Bob Graham (127 Cottage St., Jersey City 6, N. J.). The New York Model Knights race at Kissena Park, Flushing, N. Y., showed these winners in the various classes: *Class A.* 1—Andy Balling (Baltimore); 2—Max Biederman (New York). Max's boat capsized at the end of his first run at 58.07 mph, and wrecked the engine. Andy's best speed with his steam boat was 29.22 mph, but he completed three heats to take first place on points. *Class B* was taken by Henry Parohl (New York) at 59.22; Max again had bad luck, his line breaking when his boat was doing 80 mph, smashing the boat. *Class C.* 1—Bob Graham, 61.69 mph.; 2—Max Biederman. *Class D.* 1—Max Biederman, 74.38 mph; 2—Jim Hutchinson (New York); 3—Fred Manderville (New York). *Class E.* 1—Bob Graham, 58.09 mph; 2—Bob Deroo (Phila.); 3—Ralph Richards (Phila.).

At the race held in Baltimore, these results were racked up: *Class A.* 1—Max Biederman, 54.48 mph.; 2—Andy Balling; 3—Joe Sparr (Baltimore). *Class B.* 1—Max Biederman, 71.88 mph. *Class C.* 1—Walt MacWilliams (Phila.), 72.58

FIG. 1



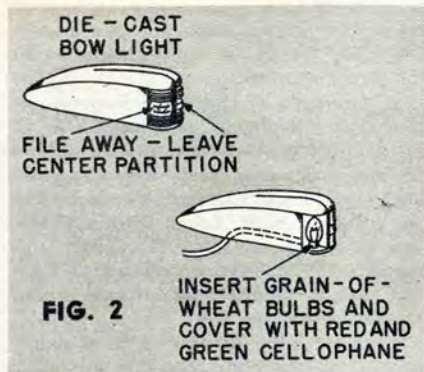


FIG. 2

mph.; 2—Max Biederman; 3—Bob Graham. Class D. 1—Ray Seavey (Phila.), 78.94 mph. 2—Max Biederman. 3—Bob Graham. Class E. 1—Bob Graham, 64.84 mph. 2—Ralph Richards (Phila.); 3—Bob Deroo.

IMPBA members in the East were saddened by the deaths of two very well known boat men, Howard Mander-ville, who was noted for his fine engine and boat designs, and Jim Sollers, Com-modore of the Baltimore Model Power Boat Club.

Model Speed Boat News will be dis-continued, with either the September or October issue. This speed boat news sheet, has been published at his own expense by Bob Graham, solely to keep the boys informed of happenings in IMPBA circles. Since Air Trails Hobbies and others are now carrying speed boat news, Bob feels he can drop his News without inconveniencing his readers.

Speeds with Half-A boats were dis-cussed last month here, with some com-ments on same by Bill Peck, Jr. (Wil-mington, N. C.) We could only put in part of Bill's comments, but here is some more dope on the subject. He found no commercial props that would do the job for him, so had to make his own; a solid hub is used with sheet metal blades sweated in, the pitch being set strictly by eye. Diameters run from 1 1/8" to 1 3/8" and the blades are shaped like those on the Johnson outboard motors, having a slight concavity seen in the big ones. That props are most important is shown by an experience Bill had with a .19 powered speedster. It has made a top speed of 28 mph with the first prop used, but when this one threw a blade, a new one was made; with no other changes save installation of the new prop, the boat exceeded 40 mph, then took off and finally ended with a big splash! After steps were taken to elim-inate the dunking tendency, and further prop experiment, the .19 was able to push the boat along at 54.2 mph.

Bill found balance to be most im-portant; if it were correct the boat would ride (Continued on page 66)

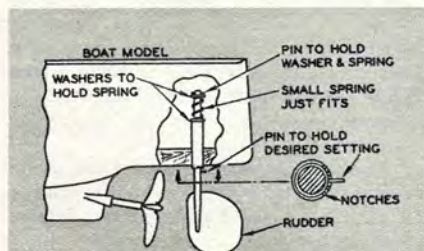


FIG. 3

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STARLET
Easy to build ... Starlet has a smooth glide due to its large wing area. Only \$2.75 less engine.



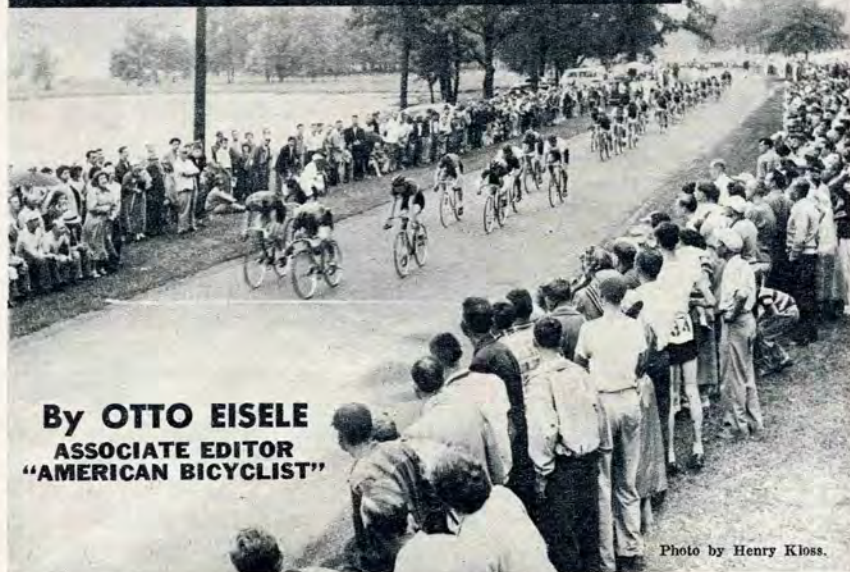
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Consolidated 10th Anniversary

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CONSOLIDATED MODELS ... DESIGNED BETTER—BUILT BETTER—FLY BETTER



By OTTO EISELE
ASSOCIATE EDITOR
"AMERICAN BICYCLIST"

Photo by Henry Kloss.

Fascinated crowd of spectators watches the big senior 10-mile race at Johnson Park in New Brunswick, N. J. Interest in bike racing has accelerated throughout U.S. in past 10 years.

For the most fun and for some rewarding friendships all bicyclists should join a club; read how

■ Bicycle riding can be a hobby in itself—or it can be a hobby for health, depending on the amount of time you want to give to it. In any event you will enjoy it more if you practice it regularly, and the best way to do this is by planning or organization.

The wheel sport reaches its highest point of perfection in racing—both in the physical development of the performer and in the quality of equipment used. Organized racing provides an unlimited variety of contests to suit the ability of most anyone—from half-mile sprints held as a part of the annual championship series each year to the long-distance road races that are a part of each Olympic Games program—or the gruelling 12-hour race held each year in Pittsburgh early in October.

To get the benefit of planning or organization you should either join a bicycle club, or if none is convenient, form a new club in your locality.

Most bicycle dealers are familiar with the various associations responsible for cycling promotion and can put you in touch with a local group connected with the American Youth Hostels, the Amateur Bicycle League of America or the League of American Wheelmen.

Formation of a new club is a simple matter—it only requires calling a meeting of those you think will be interested. When you are sure of the time and the place for your meeting you should send a notice to your home town newspaper giving the details or, better still, call on the sports editor and explain what you want to accomplish. When the meeting takes place, the person with the most interest or experience should take

the leadership and, after getting general agreement on the aims of the group, appoint a committee of say four or five members to make rules for the club which will outline the method of operation. A brief outline of the essentials the rules committee should cover would be:

- (1) Name of the Club.
- (2) Qualifications for membership—age limits, etc.
- (3) Fees or dues. Some fee must be set, regardless how small, which will indicate matters are to be handled on a business-like basis.
- (4) Specify the Officers, i.e., President, Secretary, Treasurer, Captain, etc.
- (5) Outline meeting schedule—meet once or twice a month on specified days that will be easily remembered, such as the first Monday of the month, or the second and fourth Friday.

Once you have a club or an organized group you can plan rides and tours. Occasionally a trip could be planned to some sports event, football game or baseball game, serving the dual purpose of getting in some mileage and attending an event for the entertainment.

Clubs make up the membership of the Amateur Bicycle League of America—similar to the A.A.U. District Associations that make up the national Amateur Athletic Union—which controls track and field sports, just as the A.B.L. of A. supervises bicycle racing.

The A.B.L. national organization keeps the member clubs informed of events as they are scheduled through the year. State Representatives elected by the clubs handle the A.B.L. business in each State and keep the local cyclists in touch with the national body.

Cyclists not connected with a club can secure information individually from the State Representative and all who are interested in competitive cycling se-

cure their annual license from him. An amateur license is necessary to signify eligibility to take part, and the annual fee is 50¢ for juniors and girls and \$1.00 for senior athletes.

If the name of the State Representative is not available, information as to his address, etc. can be secured from one of the national officers, who for 1955 are: President, Chester Nelsen, 4701 Natural Bridge, St. Louis, 15, Mo. Secretary, John Mesch, 1445 N Linder, Chicago, 51, Ill. Chairman—Board of Control, George Thorpe, 24 California Street, San Francisco, 12, Calif.

An interesting feature of club identification is the club colors to be used. Each club is known by distinctive colors and the blue and gold of the Century Road Club, one of America's oldest cycling groups, has been carried with honor and glory by pedal pushers for many years. Cycling tradition requires that club members sport their particular silks in competition—the official colors being registered with the national organization, and it is a source of great pride to club men when they can see their emblem carried to victory.

Competition, in cycling, is divided between junior and senior riders, the separation being by age. A junior is eligible to compete until he is 16 years of age; from 17 on he is a senior. In some sports, skating in particular, "junior" is an indication of ability, and a competitor must pass through the junior class before he meets the more experienced.

In addition to racing, club or group activity provides plenty of opportunity for social events—bicycle trips, hosting, camping, fishing, company riding, in all of which there is the essence of good fellowship and healthy adventure. Since only a comparatively few members of established clubs go in for speed cycling, the vast majority get their pleasure from group trips.

A fact not too well publicized is the reward made each year to the cyclists who win their respective State Championships. In addition to qualifying for the Nationals they also get a free trip to the city where the National Championships are held. For instance, last year (1954) the junior, girl and senior Champions from some thirty odd States received a free trip to Minneapolis at the time of the Minneapolis Aquatennial, in addition to hotel and meals while there. They also received gold medals emblematic of their State crown in cycling, as well as any national awards they may have garnered in the nationals. Last year's events had additional significance for the senior riders in that the first two in the final standing of the senior competition were awarded berths on the Olympic Team to represent the United States in the Pan American Games at Mexico City in March. Final Tryouts to select two other cyclists, to make a complete team of four for the Pan American Games, were held at St. Louis last October.

There are so many different forms that cycling can take as a hobby or a sport—it affords a field of never-ending interest leading to grand companionships and a knowledge of true sportsmen and sportsmanship. As a sport or a hobby, it provides a new meaning to bodily fitness.

GET OFF to a new thrill!
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O&R
"Offie" model
midget racer



Overall length 10"
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Featuring rugged new counterweight flywheel and drive shaft!

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It cost more than \$50,000 just to build the molds for this beautiful little "speed demon." Here's a life-time "buy" for modelers who want the very best in miniature engineering, ruggedness, and power! Built and guaranteed by Cheminol. To be sure of getting yours while the supply lasts — act NOW — see your hobby dealer...!

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Racing windshield, speedway type steering wheel... Racing tread rubber tires, hand fuel pump, wheel guards, hand brake, outside exhaust... Choice of brilliant colors: red, yellow, black or white; with silver racing numerals...genuine die-cast aluminum alloy body and frame.

Complete with integral, large capacity fuel tank; enclosed 3-to-1 planetary gear and clutch; famous O & R out-of-sight .29 cu. in. specially designed, easy-starting model car engine; pressure baffle cooling.

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Powered Boat Kit Designed
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including all cast-metal fittings! Kit B-13M. Length 21" Beam 7 1/4". For any gas or electric outboard motor.

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Actual photograph of model built from kit. Manufactured from drawings supplied by the Chris-Craft factory.



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Fokker D-VII	C-8	5.95
Corsair F4U-1	C-9	5.95
Ring Master	S-1	2.95
F-51 Mustang	S-2	2.95
Yak-9	S-3	2.95
Space Master, Jr.	S-4	2.25
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R. C. Piper Tri-Pacer	FS-1	10.95

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Chris-Craft 47' Buccaneer	B-3	7.95
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Century Sea Maid '20'	B-5	2.95
Chris-Craft 32' Cruiser	B-6M	9.95
Deluxe 34-pc. scale marine fitting set for Kit B-6M	B-6F	3.50
Chris-Craft 50' Catalina	B-7M	11.95
Deluxe 66-pc. scale marine fitting set for Kit B-7M	B-7F	4.95
Century Sea Maid '20'	B-8M	7.95
Deluxe 35-pc. scale marine fitting set for Kit B-8M	B-8F	3.95
Higgins 26' Express Cruiser	B-9	3.95

Harco '40' Deluxe Cabin Cruiser	B-10M	10.95
Deluxe 64-pc. scale marine fitting set for Kit B-10M	B-10F	4.50
Chris-Craft 63' Motor Yacht	B-11M	18.95
Deluxe 108-pc. scale marine fitting set for Kit B-11M	B-11F	7.50
Sea Dart	B-12	3.95

MARINE DRIVES

	Price
1/2 A (1/2" dia.) Gas Marine Drive	\$2.95
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BC (1/4" dia.) Gas Marine Drive	3.95
Electric Marine Drive	2.25
Marine Fittings Also Available Individually.	
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Kit FS-2
Length 30"
Span 45"
For Class 1/2A and A engines.

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Authentic Scale Model Designed for Radio Control!

This remarkably realistic model is designed for maximum performance with 1/2A or A engine with full load of radio equipment and batteries! Ruggedly yet simply constructed—it's a cinch for even the novice in radio control! Kit includes all die-cut plywood and balsa parts, poplar wing struts and motor mounts, plastic for windows, authentic decals, hardware, formed steel cowling, formed spring steel landing gear. Can be flown as free-flight, radio control or control line. **EASY-TO-READ STEP-BY-STEP INSTRUCTIONS.**

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Yes, I'd like to have a copy of the new
Sterling catalog! Enclosed is 10c in coin to
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PARTIALLY
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NEW 1/2 A CONTROL LINE SCALE MODEL

Biplane

Specifications
14" Wing span
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STEARMAN

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KIT INCLUDES:

Grade A Balsa Wood—Colored
Silkspan—Colorful Decals—Formed
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plete Plans and Instructions—nuts
and bolts for motor mount \$2.95
Less Motor and Prop,

SWAMP BUGGY



KIT E-2 \$1.00



SAIL
BOAT

KIT E-3 \$0.75



HYDROPLANE

KIT E-4 \$3.95



BRITISH S.E.5

KIT G-2 \$2.95

Cavacraft
AUTHENTIC SCALE MODELS
2045-47 NO. TRENTON AVE.

Geophysics Explorer

(Continued from page 21)

as petroleum, as your textbooks say, is believed to have been originally the "dead remains" of millions of tiny marine organisms and their floating food plants deposited as silt at the bottom of ancient seas that disappeared during the earth's upheavals and changes, with said remains eventually becoming petroleum and being trapped in the various geological formations.

The main kinds of such oil prisons are called anticlines, faults and stratigraphic traps. In any case, they are always porous layers of rock sealed off by nonporous rock. It is these structures that the petroleum geophysicist is trying to "see" below the surface—whether exposed ground or that below the top of a body of water. His principal methods are the first three named. By far the greatest amount of geophysics exploration is through the seismic method, and most likely you will begin your career as member of a seismic party. Let's get acquainted with the boys.

First of all, you'd better get used to the term "doodlebugger." That's what the men in oil search call themselves, a nickname dating back to the old days when the haphazard nature of oil hunting seemed no more scientific than the erratic meanderings of a doodlebug. Or as one field man recently improved on it, "The only trouble with doodlebugging is the difficulty of explaining to outsiders exactly what we do, especially if there is no pencil and paper handy to doodle on."

Head man of a seismic party, which usually consists of about 12 men, is the party chief. A surveyor and a rodman

lay out line, determine shot points, and the like. A driller, with several helpers, operates the portable drilling rig to make the shot holes for the explosives. The observer (there is also a junior observer) operates the seismic equipment—he's the one who gives the signal to shoot. The shooter places and sets off the charge. There are three men with title of geophysicist, also known as computers, with "First Computer" or "Geophysicist" at the top. These prepare maps from the seismic data. And the party includes assorted helpers.

As a fresh college graduate you will begin your career in the role of computer trainee or junior geophysicist, and advance through various positions. Through several routes you can enter research, including geophysical engineering. With experience as party chief you may go on to become supervisor and chief geophysicist, and eventually enter management. Your career will start in this country or Canada. After a certain amount of practical background you may apply for foreign duty, most of which is voluntary. In this, the opportunities are increasing rapidly.

Just last August, the government of Cuba announced that for every million dollars invested by oil prospectors, it would grant a loan for two-thirds of the amount to further exploration. In France, during 1954, petroleum searchers discovered the largest well in Western Europe, and new fields have been found in Germany and the Netherlands, as they were in the continual activity in Saudi Arabia and Iraq. On our own continent Western Canada has shown promise of the most extensive finds.

But don't sell the U.S. short! In the sea off California, offshore in the Gulf of Mexico, in North Dakota, in Eastern

Montana new strikes have been made in recent months. In the fields of East Texas, still our greatest source for oil in this country, new black gold is constantly being brought to the surface. A fact that may surprise you: in 1954 more than 50,000 wells were drilled in the United States.

Why all this hooraw for more oil? Easily guessed is our desire to have more sources in our own backyard. Petroleum furnishes in excess of 50 percent of our national energy, and we're getting more energy-conscious all the time. Again, since America must now import the valuable stuff to fill its multiple needs, lack of it at home base might be a calamity in case of a major war. Vaguely guessed but not completely realized by many of us is the increased use of oil to meet today's standard of living.

The oil industry spends over \$100 million a year to discover new applications—and their lab scientists come up with six new inventions per day. New insecticides, weed-killers, fertilizers, detergents, paints, waxes, synthetic drugs, synthetic rubber, plastics—they're all made completely or in part from oil-derived chemicals. And the end is nowhere in sight. Dr. Robert E. Wilson, head of Standard Oil of Indiana, recently pointed out that the lab men are experimenting with the problem of food itself. In the next fifty years, he believes, an appreciable part of the world's food will be produced from chemical reactors from oil, air and water.

The boys out in the field don't worry much about such things. They're concerned with the job at hand and daily living. Geophysical Service Inc., Dallas, Tex., one of the world's largest independent companies engaged in "hiring

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MADE FOR JUST THAT PURPOSE

- **CLARK-Y Air Foil Section** — most versatile of all — delivers highest THRUST to POWER ratio.
- **TRUE PITCH — SLEEK THIN BLADES — EXTRA SMOOTH FINISH** — adds up to more thrust with less torque allowing engine to develop full H.P. for maximum performance from engine and fuel.
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Consult Prop Chart at your dealer for exact size and pitch to use with your engine.

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Propellers

out" field parties for petroleum exploration to oil companies and the like, has an employees' magazine wherein a good part of that daily life is reflected. Said the correspondent for Party 507, Brazil: "Alfredo, the irritating alligator, has been missing since Christmas." (Foul play feared; chief suspect was a member who was returning to the States, where alligator bags for the girl friend cost money.)

The reporter for the unit at Dawson Creek gave a boost to his pal the Scout, who brought down two moose and about 400 yards from camp a grizzly right after the season started. And from Party 603, Saudi Arabia: "The crew is located in Rub Al Khali (Empty Quarter) . . . No water wells and houses to worry about here. We live in trailers and tents and move about once a month." (The big GSI sleeper trailers for that desert country sleep ten men, and the all-mobile facilities include kitchen, office and shop-bath, are air-conditioned.)

Exactly what kind of education do you need to get into exploration geophysics? First of all, since the work is based on advanced scientific training, the companies concerned want men with college degrees. At present there are roughly a dozen colleges and universities in the country that grant degrees in geophysics. However, that specialized degree is not a must. More than 200 institutions of higher learning have departments of geological science, with degrees in various branches, and you can enter exploration with a B.S. in geology in a number of majors. You can also qualify with a sheepskin in math, physics or one of the five main branches of engineering—civil, mechanical, electrical, etc.

Suppose you are interested but you feel you cannot afford a college educa-

tion. Don't take that attitude unless circumstances allow no other alternative! Remember that there are all kinds of general scholarships, that practically all colleges have placement bureaus for part-time work, as well as loan funds. Some institutions award scholarships in geology itself—you can obtain information by writing to them directly. Among these are: Stanford, U. of Cal., U. of Colo., Idaho State College, Harvard, U. of Okla., U. of Tex., Washington and Lee, and U. of Wyo.

Let's say the price of a college degree is out of the question. You can still obtain a fair amount of basic training at two-year technical institutes and junior colleges. More than 30 such schools offer courses in geological science. The majority of these are in California, though Kansas, Utah, Arizona, Colorado, Montana and Texas each has at least one "junior" which includes them.

A tip: Have your school guidance counselor order Report No. 11, "Department of Geological science in Educational Institutions of the U.S. and Canada, 1954-55." This lists the courses, degree requirements and staffs of more than 200 departments of geology in colleges, universities and junior colleges. The cost is \$1.50, and it is issued by the American Geological Institute, 2101 Constitution Ave., N. W., Washington 25, D. C.

This Institute will also answer specific questions from you in regard to education in geology, as will the Society of Exploration Geophysicists, whose address is 624 S. Cheyenne, Tulsa 3, Okla. If you live near a college, talk to a member of the faculty in geology.

And if you can't go to any kind of college at all, don't give up hope. Geophysics needs skilled workers and sub-

professional employees in field parties, in labs and offices. With initiative and study while on the job, you can work your way up—though you must realize the climb is far more difficult, for you are competing with college men who are better trained initially. (Incidentally, the Geophysical Service company mentioned conducts correspondence courses in exploration work that are open to any employee who has been on the payroll for at least six months.)

In general, the best job opportunities in geophysics are in field work, for this employs the most men and the need there is the greatest. However, a number of job chances will also be found in "inside" work. Many geophysicists assume supervisory duties, becoming administrators, executives. They are required in laboratories as well—including the explorer kind. Geophysical and oil companies design and build much of their own equipment needed in the eternal hunt, improving on the established and seeking new methods.

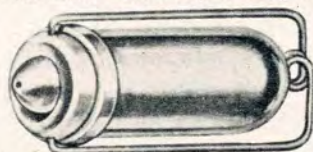
Texas Instruments, a multi-company organization with divisions in many lands, besides being engaged in the manufacturing and engineering end, does continual research which lately has resulted in great strides in the electromechanical method for oil exploration. Socony Vacuum maintains a vast Field Research Laboratory just outside Dallas where constant experimentation is taking place. And in all this research activity the lab men go out on field trips as part of the job, to test and check both gadgets and new theories.

The Federal government also employs geophysicists, especially in the U. S. Geological Survey. Many of these work on our strategic minerals program, and

(Continued on page 66)

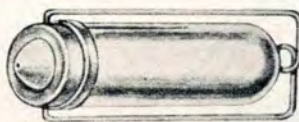
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Jetex brings you power packed performance for pennies! No other form of model airplane engine brings you so much enjoyment, so many flying thrills as Jetex jet engines. Initial cost is lowest; operating costs are very moderate . . . there's nothing to break or wear out with Jetex. Dependable, enjoyable, and economical—that's why so many modellers prefer Jetex.



**THE JETEX
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Most popular of the Jetex engines. Proven dependability and performance in hundreds of thousands of flights. Including fuel; spare parts. \$1.95
Wt. 2 oz., Fuel wt. .2 oz., Thrust .6 oz., Length 1 1/2", Diameter 1 1/16". Fuel — 15 pellets and wick. \$1.25



**THE JETEX
"ATOM" No. 35**

Specifically designed for small, light-weight, models such as the Jetex P-13. Uses a shaped fuel pellet for constant thrust. Including fuel; spare parts. \$1.75
Wt. .15 oz., Fuel wt. .10 oz., Thrust .5 oz., Length, 1 1/2", Diameter 9/16". Fuel — 8 pellets and wick 65c

F-102



Semi-scale delta wing model of the newest and hottest U.S. Air Force Jet. Powered by the Jetex No. 50 for

outstanding high speed performance. All die-cut balsa parts and complete instructions for easy assembly.

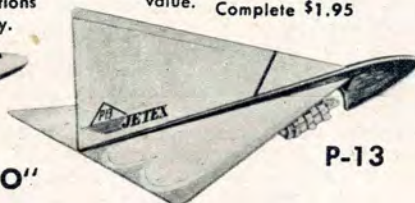
Sold complete with Jetex No. 50 engine and fuel. Excellent value. Complete \$1.95



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True scale model for the Jetex No. 50. Kit includes all balsa die-cut parts. Features AEROFORMED* construction.
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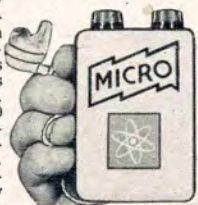
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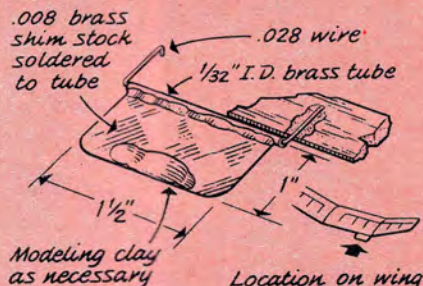
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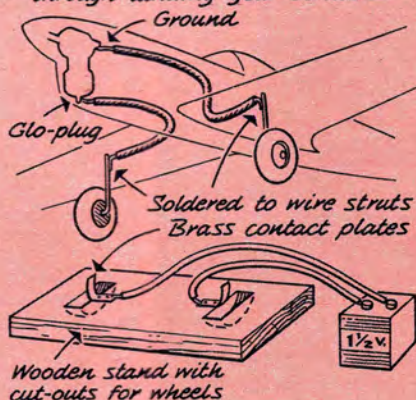


MODELPLANE

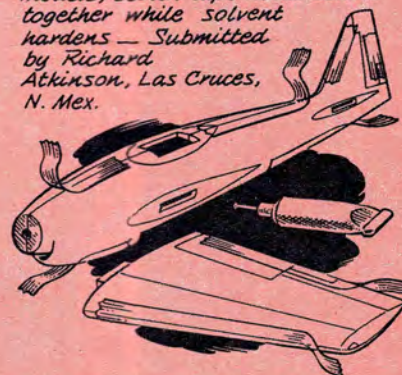


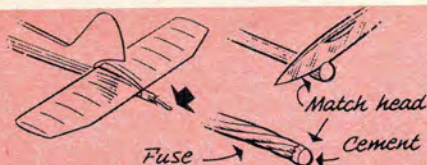
Have you developed something new in construction, control or flying? Send a rough sketch—we'll redraw it and pay \$5 for each accepted. Ideas should be original; sorry, no correspondence on submissions.

Mike Parsons, Eugene, Oreg., devised automatic glo-plug starting battery connection; wheels are placed in grooves of starting stand, contact made through landing gear struts —

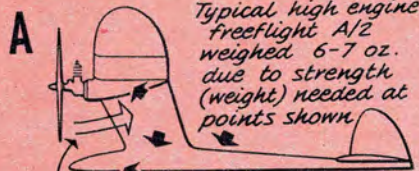


In assembly of plastic models, scotch tape holds seams together while solvent hardens — Submitted by Richard Atkinson, Las Cruces, N. Mex.

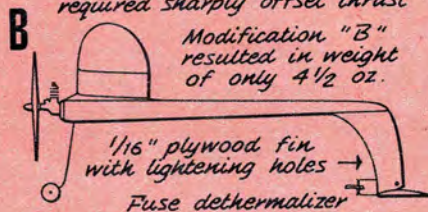




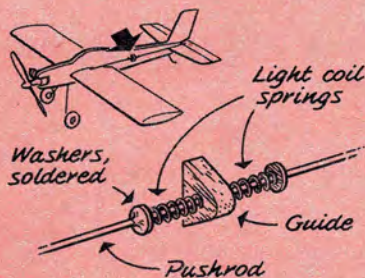
Match head helps ignite fuse in windy weather. Submitted by Phil Heflin, Omaha, Nebr. & Rudolph Aukshun, Wash., D.C.



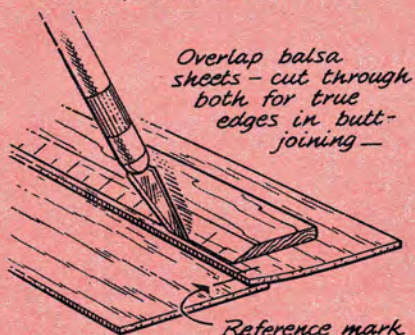
Slipstream on pylon side required sharply offset thrust



Weird freewheel design of D. H. Drury, Ann Arbor, Mich., has straight-up climb... no looping tendencies... requires only slight thrust offsets —



Beginners' control-line training aid is device to neutralize controls for level flight. Designed by Richard Mathias, Lancaster, Ohio —



Sheets butt-joined with 1/16"x1/4" strips beneath seams. Ribs notched for strips

Completed wing

Efficient wing structure and building procedure by D. L. Stetler, Los Angeles, Calif.

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Ideal For .19 To .35 Engines



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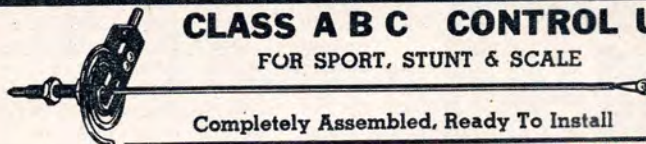
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(Continued from page 63)

The Survey is expanding its plans for geophysicists to help in problems connected with water supply. Finding and improving on underground water sources is one of the many functions also of the various state Geological Surveys. Very active among the latter is the one in Illinois, where as elsewhere the electrical resistivity and other methods have in recent years detected a quantity of new water supplies in the sand and gravel formations of stream valleys buried by creeping glaciers millions of years ago.

Although we have concentrated mostly on exploration geophysics, it might be pointed out that other specializations of all the main branches of the "earth sciences" besides geophysics—i.e., geology and mineralogy, geochemistry, geography and meteorology—all may contribute to the search work considered here. Examples of such other specializations are oceanography, which delves into the geography and traits of oceans, and geomorphology, which is concerned with the nature and origin of landscapes, and also with glaciers. A field that has developed rapidly since World War II is engineering geology, that ties engineering to geology in the building of dams, highways, airfields. And don't forget paleontology, the study of fossils, those long-dead forms of life preserved in rocks.

These are not just "long-hair stuff." Many such fields are closely allied to geophysics, and achieving very practical results. Study of microscopic fossils in rock cuttings brought to the surface may help indicate oil-bearing formations far below. Study of the ocean floor with instruments in ships and submarines, now an active form of fundamental research by geophysicists, is uncovering facts that may lead to new worlds, including the economic.

If you think you might like to make geophysics your career, there are certain things you can do while still in high school. Take all the math and science possible. If engineering drawing is available, grab it, for in college you will be studying that and surveying—and other "tool courses." Don't neglect the "humanities." It would be wise to get a grounding in French, German or Spanish. And you hate English composition? Don't forget you'll have to write technical reports, and as a potential head man be able to express yourself in words, whether in field or in office. Try to squeeze in economics and business administration, if only through reading.

Your college course will embrace all these subjects. Why not start now so you won't be a lame duck when faced with them as requirements?

Any geophysicist will tell you that the right kind of hobbies can be of real assistance. Photography (ever hear of photo-geology?) and electronics, for instance, may be part of your daily life later on. And jobs involving mechanical repairs and electronics give excellent grounding. If possible, apply for a summer job with a geophysics exploration party working in your vicinity; these hire local people in various capacities.

Keep yourself fit with sports, join teams, enter into group activities. Does that sound like the usual big wind they blow at fellows your age? Well, the aforesaid reporter for the Dawson party mentioned that it got -40 degrees that winter, and stamina can be an important factor in this work. So can the ability to get along with twelve different personalities all alone with each other for days at a time in some desert or what-not. In this job, the old team spirit can be a mighty real thing.

Here are some free booklets that will help further your knowledge about this growing field:

"Shall I Study Geological Science?" Order from: American Geological Institute, 2101 Constitution Ave., N. W., Washington 25, D. C.

"Careers in Exploration Geophysics." From: Society of Exploration Geophysicists, 624 S. Cheyenne, Tulsa 3, Okla.

"Finding a World of Oil—A Career for you with GSI." From Geophysical Service Inc., 6000 Lemmon Ave., Dallas, Tex.

"United States Geological Survey—A Career in Geology." From: Director, Geological Survey, Washington 25, D.C.

"Careers in Petroleum." From: American Petroleum Institute, 1322 Broad St., Philadelphia 2, Pa.

"The World Is Your Workshop—Pa. State College Bulletin." Order from School of Mineral Industries, State College, Pa.

The U.S. Government Printing Office also has pamphlets on the subject, at a nominal cost. Among these is "Employment Outlook for Earth Scientists, 1952," 30¢. Ask for Bulletin 1050, and send your order to Superintendent of Documents, U.S. Government Printing Office, Washington 25, D. C. You might also ask the Office for a list of other pamphlets related to geophysics.

Model Boating

(Continued from page 57)

smoothly on the prop and the two sponsons. His first boat had the engine well forward, but it lacked sufficient weight to keep the prop in the water. The faster it went the more it would bounce, until it nosed over. This was cured by moving the engine back in later boats. Some of these had a tendency to raise the nose and flip over backwards, which was taken care of by bringing the sponsons closer together to lessen the air lift. Bill would be very happy to correspond with others on these problems; you can reach him at 2409 1/2 Oleander Drive.

Half-A hop-up interests Mark Dennis (1325 Mayfair Rd., Raleigh, N. C.). He would like to hear from builders who have been able to make improvements on their Half-A's, .19's and other smaller engines.

Queries. The photo of the R/C cabin cruiser on page 14 of our Oct. '54 issue interested Robert Dence (Box 217, Lisle, N. Y.) very much, and he was especially taken with the mention of the engine—a 4-cycle Wall. Bob wants to know where such an engine can be obtained. This engine was a product of Elmer Wall, who used to supply drawings and casting sets for quite a number of small gas engines, from one to four cylinders. The last address we had for Mr. Wall was 5900 N. Fairfield, Chicago 45, Ill. Mr. Dence also wants to get plans for a cruiser of the size shown.

We have had quite a few inquiries from readers as to sources of finished engines, parts, and castings for various types of model power plants, both gasoline and steam. We will continue to list in this Column makers of such items, and will be glad to hear from readers or manufacturers themselves, about sources of such merchandise.

Commercial News. The entire line of
(Continued on page 68)

Air Trails HOBBIES For Young Men

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GOLD SEAL
200 GLO FUEL
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HOBBY ITEMS IN THE NEWS

▶▶▶▶ Flying saucer kits are newest creations of Amcraft (2 Barringer Ave., Schenectady, N.Y.). "Jupiter" is control line trainer and sport plane for Half-A powerplants, \$2.50. "Venus" is a free flight saucer with a 21 inch diameter wing, \$2.50. Amcraft is also packaging 2 inch rubber wheels with 1/8" diameter brass bushings, 35¢ a pair.

▶▶▶▶ Aristo-Craft Distinctive Miniatures (184 Pennsylvania Ave., Newark 5, N.J.) announces new, lower prices for their line of 11 flintlock antique gun model kits as follows: Adams, \$3; Kentucky, \$3.50; Jefferson, \$3.50; Jackson, \$3; Lafayette, \$3; Washington, \$3; Revere, \$2.50; Monroe, \$2.50; Livingston, \$3; Hamilton, \$3.50; Morgan, \$3.50; and Blunderbuss, \$7.50.

▶▶▶▶ A new duration record of 2 hours, 31 minutes was set by Hilton D'Hefferman of England with a Mills 1.3 cc. \$14.95 model aircraft "diesel" engine. Polk's Model Craft Hobbies (314 5th Ave., New York 1, N.Y.) are the U. S. distributors of this powerplant.

▶▶▶▶ America's Hobby Center (156 W. 25th St., New York 1, N.Y.) has a new "Guide to Model Railroading" described as the how-to-do-it manual of HO. 32 pages with many illustrations, it sells for \$1 and contains a \$1 refund coupon which can be applied against your next order. Material includes building a complete model railroad, wiring your layout, trouble-shooting your locomotive, track work tips, how to build scenery, track layouts, tips on painting your equipment, plus charts, diagrams and a number of photos.

▶▶▶▶ Springfield Models (964 Springhaven Road, Springfield-Morton, Pa.) announce Nate Rambo as designer of Springfield's radio control "Spirit of St. Louis." He started building models 15 years ago and today at 24 owns and flies his own plane. He is a project engineer for the Navy's Bureau of Aeronautics. He placed in the 1949 Plymouth Internationals and won the Penn State Championship precision control crown for two years running. For the past 5 years he has been active in R/C and organized more than 100 radio control fans in the Philadelphia area; they now conduct an annual R/C Conference.

▶▶▶▶ Constructo Nautical Miniatures (1186 Broadway, New York City) announce price reductions on six of their present gun model kits as follows: flintlock dueling, \$1.75; Colt .44 frontier, \$1.95; Colt .38 automatic, \$1.95; police special, \$1.95; Walther P-38 automatic, \$2.50 and Luger 9 mm., \$2.50. An additional 12 new historic firearm kits will be offered in 1955.

▶▶▶▶ New line of decals for trimming and decorating models by Consolidated Model Engineering Co. (3087 Third Ave., N.Y.C. 51) are called "Flex-Cote" decals; CMEC has catalog on 'em.

▶▶▶▶ E and H Model Hobbies (130 W. Cheltenham Ave., Philadelphia 44) offers new 16-pg. "Catalog of Gifts" suitable for all occasions.

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It's Neat!

THE BASIC TRAINER has aluminum landing gear, complete hardware (pre-fab—only 7 parts to bolt and glue together), ready to fly in an hour; for engines .14 thru .35. Class A-B & C. Sells for... \$2.95

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The Iron Curtain has hidden the enigma of the Soviet Airforce until the publication of the "MILITARY AIRCRAFT OF THE U.S.S.R." by Cain and Voaden, two authorities on the Soviet Aviation effort. Now you can learn the secrets the Iron Curtain could not hold back! See the excellent photos, drawings, three-view diagrams of Soviet Bombers, Trainers, Fighters, Jets, Cargo, Glider and other types of Russian planes. Wonderfully handy data given on each plane shown, supplemented with concise information, just what you've been searching for. In addition to this publication, we will send you ten of our EXCLUSIVE photos, never before offered by us. Ten internationally known favorites... Bell X-1B, Avro CF-100, Douglas F3D-2, SAAB J-29, Republic F-84G, Westland Wyvern, N.A. FJ-2, Boulton-Paul P.IIIA, Lockheed F-94C and Vought F7U-1.

In addition, we will also include in this combined offer, our complete listing of our exclusive aircraft photos, the 1953-54 list, which also gives complete information on our stock of old and new aviation books. Send for the complete deal now! "Military Aircraft of the U.S.S.R.," ten original photos listed above, the photo and book-list, all for only \$2.00 post paid anywhere in the U.S.A. or Possessions. All other countries, \$2.25 pp'd. Rush your check or Money Order today! Sorry, No C.O.D.'s.

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SPEED WHIZ



RECORD BUSTER Dale Kinn of U.S. Air Force with the two Mono-Line equipped models he used to shatter existing national speed marks for control line planes. Airman 2/C Kinn of Kelly AFB, San Antonio, flew his Dyna-Jet powered entry in the Southwest Model Airplane Championships to a new high of 154.98 mph; his Class A job established a new speed mark of 134.68 mph (both performances subject to homologation by A.M.A.). Other Mono-Line victories were racked up by the Jim Clem-Sam Beasley team which walked off with first place in Class Half-A and Class B speed. Additional "one-line" performers included Leo Holliday, Leland Morton, Jimmy Sommersett and Dimmit Perkins.

(Continued from page 66)

English Allbon diesel engines is now available from American Telasco Ltd. (166 Spring Rd., Huntington, N. Y.); they can supply these engines from the tiny "Bambi" which is a .009 cu. in. job, up to the "Javelin" of .09 size. In between are the Dart (.03) and the Spitfire (.06); all three of the large engines sell for \$12.95, while the tiny Bambi costs \$24.95. American Telasco also has a line of marine accessories for the three larger engines, including exhaust collector ring (\$2.60), muffler (same price), water-cooled cylinder head (\$4.15) and flywheel (\$2.10 for Dart, \$2.60 for the other two engines).

New outboard speedboat kit designed by Frank Ehling has been announced by Scientific Model Airplane Co. (Newark, N. J.). Called Torpedo, the boat is 20" long with 8" beam, and kit is well prefabricated; hull is of mahogany veneer. Kit retails for \$2.50, less engine.

Line of Webra high performance Ger-

man diesels is carried by Polk's Modelcraft Hobbies (314 5th Ave., New York 1, N. Y.); includes engines of .049 to .15 size, the latter being made for both beam and radial mounting. There is also a special racing type .15 called the "Mach 1," selling for \$13.95. Complete line of spare parts for all engines is stocked by Polk's.

Plans for famed Traband speed boat hull may be had from Chas. Baxmann (2991 Garland Ave., Detroit, Mich.). This hull holds both Class C and Class E World Speed records. Mr. Baxmann also can supply marine accessories needed for the really high speed boats, as well as finished boats and engines.

Special motor boat steering escapement will soon be sold by Cameron Precision Eng. Co. (Chino, Calif.). Listing at \$8.95, unit is designed for heavy duty operation, and is of the 4-position type. More data on this later. Cameron also has a motor-control unit, a Compound and a 2-arm escapement in their line.

J-C-S Guide

(Continued from page 48)

alumni publication of this Hoboken, N.J., all-engineering college, is probably the largest ever to inquire into what happens to engineers after they graduate. A total of 5,350 were quizzed, with "the year" going back as far as 1902. The results should give the would-be engineer whose career is still ahead some tasty and provocative facts to chew on.

The survey shows that 78% of alumni who have been out of college five years or more are in executive or supervisory jobs. This underlines the current trend of industry to place men with technological training in key positions.

The statistics also show that the newer industries, such as aircraft, radar and television manufacture, do not bother much to draw on the general "reservoir of talent" formed by all the engineers around. Instead, they want the new graduates to fill engineering and research jobs. (Thus, with the continuing shortage of engineers, you will probably rate two red carpets when applying at the new industries with a diploma in hand.)

Salaries? The report showed that 64% of the alumni were making above \$5,000 per year after three years. Forty percent had incomes above \$10,000 after 15 years out of school—and this included those earning salaries up to \$25,000. Outside interests? Twenty-three percent of the graduates said they "actively participate" in music, drama, painting, sculpture, writing. (The "humanities" have always been required courses at this school devoted wholly to engineering. It might be noted that the artist Alexander Calder, creator of the mobile, is a Stevens graduate.)

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JANUARY 3-31

JANUARY, 1955



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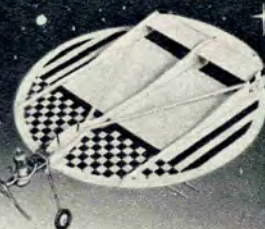
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The Finish Counts!

(Continued from page 22)

is completed. Here's where the sandpaper and elbow grease are used. All wood surfaces that will touch covering material are sanded smooth. Use successive finer grades of sandpaper and remove all fuzz from wood. Cut away any excess cement that may stick up above wood. On larger models a thin coat of clear dope applied before final sanding will help sandpaper cut away any fuzz.

Methods for covering with light or heavy paper, silk and nylon are very similar with a few exceptions. Lightweight tissue is usually applied dry and water-sprayed to shrink tight. Heavier materials are best applied wet. Grain of the material should always run lengthwise of the structure to prevent any unnecessary sagging; that is, spanwise on wings and tails and nose to tail on fuselages. Papers such as Silkspan and Skysail do not have a very definite grain, but this can be determined by holding paper up against the light and noting the shape of the fiber bunches—they will be a bit longer in the direction of the grain.

Another method for determining grain of paper is to tear it. If fibers part easily in a more or less straight line the grain runs parallel to tear. Now tear at right angles to first tear. You will find fibers more difficult to part and a jagged tear will result. This establishes the cross-grain direction. Grain in silk and nylon is always parallel to selvage (hard edge) along the length of the bolt of fabric. Remember: Grain should always run lengthwise of the structure.

Covering application procedure is shown in the sketches. Note difference between dry and wet methods. Use regular dope consistency for application of lightweight paper. Smooth dope or cement through material with fingers to make a good bond. Planked or all-wood parts of built-up model should get same covering application as rest of model for added strength.

When covering large models with silk or nylon it is advisable to apply two or three coats of clear dope and/or sanding sealer to all-wood surfaces before adding the fabric. This lets fabric bond more easily and with wet covering prevents the water from raising the wood grain. Sand doped wood lightly before applying fabric.

After wet fabric has dried and shrunk tight, several coats of clear dope are needed to seal all pores in the weave. Very light sanding with fine-grit wet paper between coats helps smooth the finish. Numerous coats of thinned dope are better than only a few coats of heavy dope, and the coats also dry faster. Dope for models with light structure such as rubber or free-flight is usually "plasticized" by adding a few drops of castor oil to each ounce to prevent brittleness and warps in paper covering. Three or four coats of clear and/or aluminized dope on nylon should be enough. About four coats of colored dope should give a good solid color. This should be considered a minimum finish for average stunt, free-flight or R/C model, since some modelers build up as many as 15 to 20 coats to get a super finish.

Finishing methods for all wood models such as speed, flying scale, team racer, non-flying and stunt with all wood fuselages follow the procedure shown in the sketches. Some modelers may follow a slightly different pattern, but the method is basically the same: Fill wood grain thoroughly, build up final color, rub down, polish and wax.

Auto primer is widely used as a filler on scale models where weight is not too important. Sprayed-on primer, smoothed with wet finishing papers makes a super smooth base for a sprayed-on colored dope finish.

This method is also a good one for finishing model boat hulls. If electric power is used, nitrate dopes, lacquers and enamels can be used. Planked balsa hulls can be given the same treatment as all wood airplane models. Clear dope and sealer on wood, then layer of tissue, auto primer and final color to complete job. Hardwood hulls are best finished with lacquers or enamels. Good grade varnish is best for natural wood surfaces like mahogany decks.

Fiberglass hull or airplane surfaces are best finished with auto primer before applying fuel-proof dopes or enamels.

Always apply light colored areas first on any model, then use masking tape to outline darker areas. Apply a thin coat of clear dope over edges of masking tape to seal edges before adding colored dopes.

After final finish is rubbed down any decoration such as Consolidated's new decals or the old Trim-Film decals should be added before waxing. Clean surfaces where decals are to be applied thoroughly with carbon tetrachloride or similar cleaner. If decals do not stick too well, try the following trick. Before applying decal wet a piece of gummed paper tape and rub sticky side over area to be covered by decal. This will leave a deposit of stickum on surface—then apply decal in usual manner. Wipe off excess adhesive. Let decals dry overnight before giving model final waxing.

Landing Gears

(Continued from page 52)

it is far better to add a light tension member to each strut which angles upward in front of the main gear strut. This member can be of very light gauge since tension strength of steel wire is enormous.

Most efforts at dressing up a model begin with the addition of wheel "spats." (9) Often, however, when spats do not fit wheels snugly or are not correctly aligned, the appearance aspect is negative. Provision must be made to hold the fairing straight so that the wheel may revolve freely within it and at the same time secure it against landing shocks. A wire "spur," bound and soldered to the gear strut, can be cemented to the spat and further secured by doping a fabric strip over it. A variation for dural gears employs a tab extending rearward—or both to front and rear—with holes for screwing these tabs to solid portions of the spats.

Dummy "retractable" gears as a rule have members bound and cemented firmly to wing spars. The exposed parts can be wrapped with masking tape, or lengths of Neoprene tubing can be slipped over the wires, to simulate scale shape of the recoil struts. Landing gear well covers of plywood or dural (10) can be held in place by small brackets riveted to the covers and clamping them against the struts. The wheel well area is usually painted flat black for realism in flight.

—H. A. Thomas

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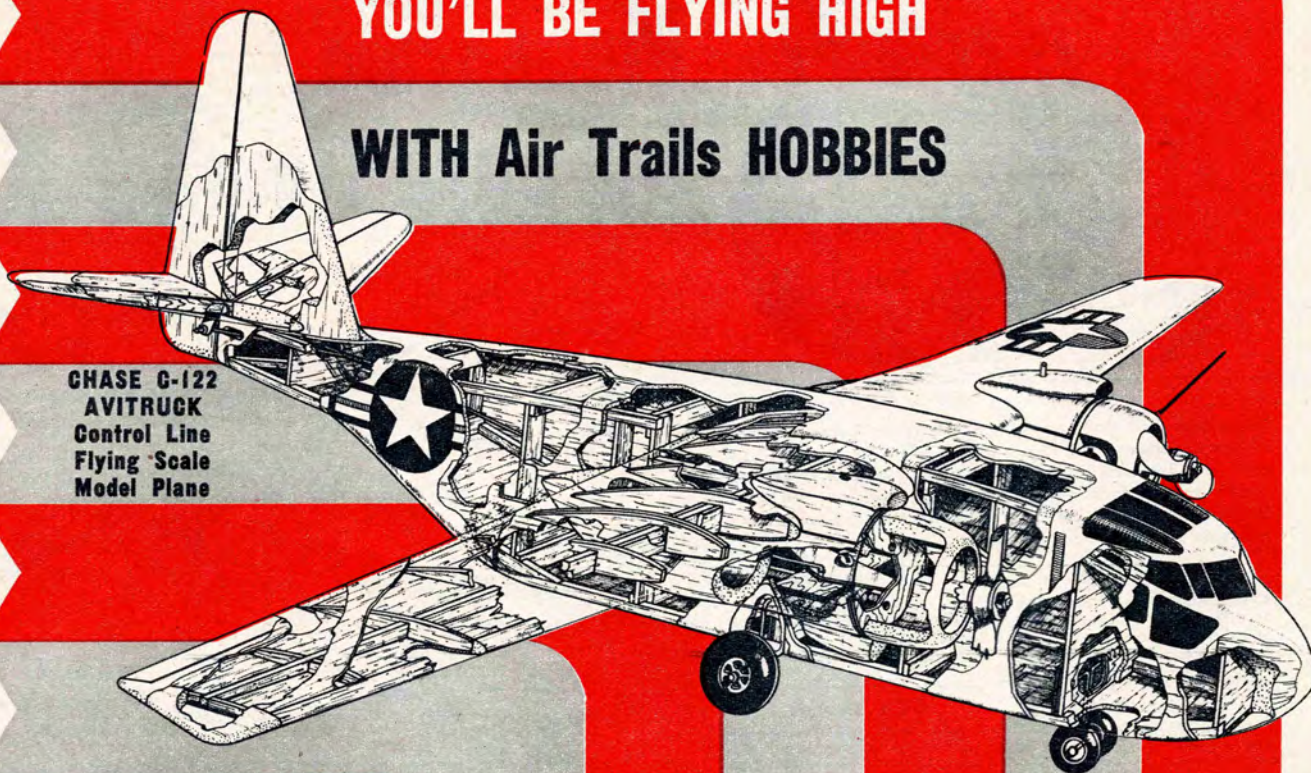
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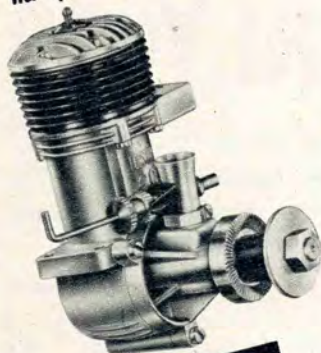
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Model Car News

(Continued from page 11)

the food supplies twice during the evening! The race was so much fun that more of them are planned for 1955, but they will be scheduled earlier in the season.

The AMRCA will try out a scheme of keeping a listing of top place winners in all the different car classes, winners getting top points, of course, in the Nationals and regional races, less at the smaller races. Points will be kept for each class, and cannot be transferred from one class to another. At the end of the year, or possibly some other period to be decided upon later, a trophy will be given to the man with highest points. The way this is set up, a fellow owning and running some of the older cars will have just as much chance at the trophy as those (in) Custom Proto with the very latest and hottest in cars and engines.

The IMRCA Is Active. We had a few notes on this organization—the International Model Race Car Association—a few months ago, but now have some news right from headquarters. President Bob Bacon (3731 56th St., Sacramento, Calif.) writes that most of the activity has been in Northern California, with the Sacramento Model Race Car Association one of the busiest groups. These boys held a race each month, with points based upon position in each heat. A total of forty cars were raced. The Woodlands Mites Club held two races during the season with a turnout of thirty of the screaming little devils in action. The IMRCA is helping the Santa Rosa club reorganize; they have a fine

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track built about five years ago at an airport. In San Francisco, Edgar Fillepette and others are negotiating for space upon which to put a new track, and it looks as though they will be under way soon. Bob asks that modelers interested in racing in his area get in touch with him at the above address.

Tracks for the East Coast! We have received flashes that a track will be got ready for the 1955 season on Long Island. It seems that Frank Vallo and Pete Chiovitt are pushing this one. Another new track will be built in or near Paterson, N. J., with Eddie Allaire and the very active Paterson gang responsible. And still more good news for the area—Don Chamberlain has said that the track at the Lakehurst Naval Air Station is again open to the public. It will not be demolished, as had been expected; there will even be a macadam topping added to the infield.

Bob Moore, who sent the above welcome news, asks that we print parts of a letter he received from Paul Foster, who is trying to get things going in a racing way, up in Alaska. He can be reached at Kodiak Hobby Shop (Box 584, Kodiak, Alaska) and writes as follows: "We have been trying to get a track in the summer here, but failed to do so. Had a letter and plans for the track and set-up in New Orleans. The set-up we have here is not too good to build a track such as theirs. What we have been trying to find is a plan of a track that can be taken apart and put under cover in the winter months.

"Just six miles from our town is the large Navy Base and we have the only hobby shop here; the boys keep us pretty busy with their ideas. They have (Continued on page 81)



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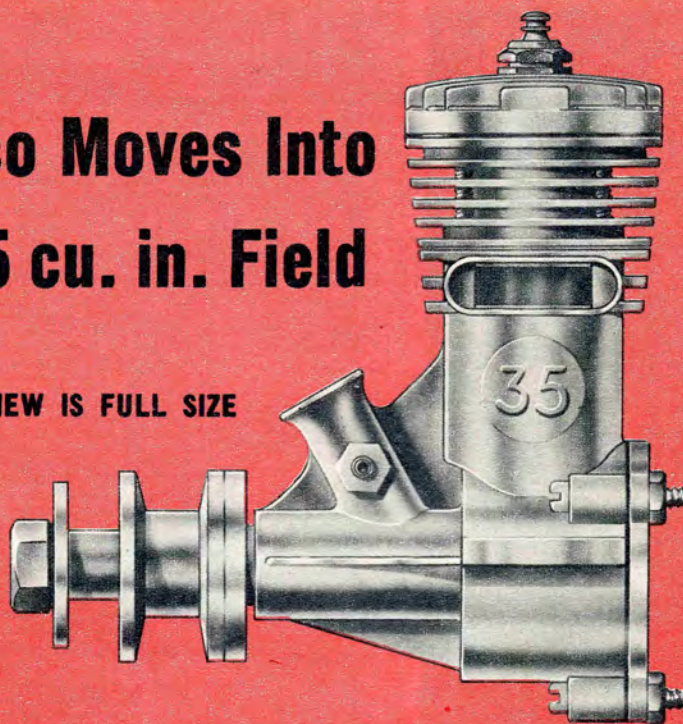
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SIDE VIEW IS FULL SIZE



■ Before going into the construction and performance of the latest member of the Veco engine family, namely the .35, let's talk about TCC and what it means to you the modeler.

The design staff of the Henry Engineering Company with Mel Anderson at the helm has long felt that a great many engines are unnecessarily ruined during the break-in period. Through their efforts in conducting extensive heat control tests, the new line of Veco engines now have incorporated in their design a combination of metals and clearances that expand uniformly from room temperature up to 425 degrees. This may seem like a very insignificant feature in view of the fact that most engines achieve somewhat this same effect after careful break-in procedure. However, Veco reports that its engines, through "Temperature Controlled Clearance," can be flown right out of the box. The only suggestion is at least six flights of five minutes' duration with a rich needle valve setting before attempting to stunt or leaning the engine out to peak rpm.

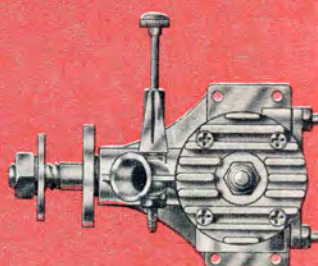
Thus it becomes quite apparent that through "TCC" the risk of seizure by

overheating during that period usually considered break-in time has been reduced considerably if not entirely eliminated. In fact, so sure is the Henry Engineering Co. that you will encounter no overheating or seizure with their products that they state in their general instructions: "Each engine is thoroughly tested and run-in at our plant and does not require bench running for break-in."

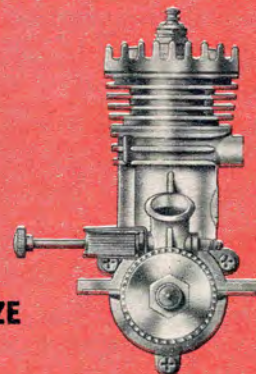
The Veco .35 has a bore of .784 and a stroke of .724. Displacement is .350. Compression ratio is 8½:1. Weight is 6.4 ounces. Checking the two previous engines, the "29" and "31," it is interesting to note that all three engines have been designed around the same crankcase and cylinder head castings. The stroke, compression ratio and the weight are identical. Power to weight ratio of the "35" is therefore the highest of the three.

Construction-wise, materials used and basic design features remain unchanged. However, elimination of the oil hole at the crankpin end of the connecting rod is one change we noted.

The main crankcase (including the venturi), fins, head and backplate are



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die-cast aluminum. The main bearing is steel. The one-piece hardened and ground steel crankshaft is heavily counter-balanced and employs a hollow crankpin. Both are features that should insure smooth, vibrationless running. Fuel economy of the .35 is exceptionally good due to the conservative rotary valve area and the rather small I.D. of the intake tube. The connecting rod is forged aluminum to keep its weight down without sacrificing strength.

The wrist pin is steel and is fitted with brass pads to prevent cylinder scoring. The piston is cast of mehanite and then machined and ground to a smooth finish. It is relieved from a point midway at the wrist pin hole to approximately 1/16" from the bottom. In this way friction has been reduced considerably without affecting the base or head compression.

The cylinder liner is steel. It is a hand-push fit into the crankcase and is held in place along with the cooling fins by the four Phillips-head machine screws which also hold down the head. One gasket under the head and another between the main cylinder casting and the finned section maintain a leak-free unit.

As optional equipment Veco offers an aluminum propeller extension for an extra 75¢. It is shown on the side view of the engine here and is highly recommended to the flyer who is just starting in this power class.

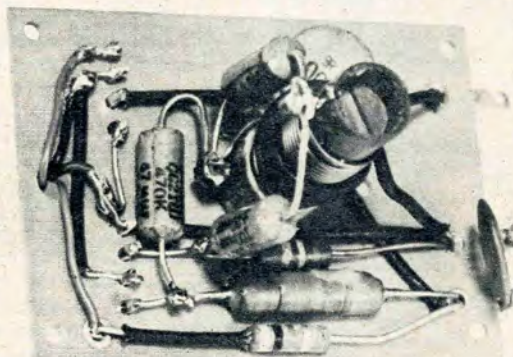
Until you have the starting procedure down pat we strongly recommend using a husky 10/6 propeller and avoid flooding the engine here and is highly recommended to the flyer who is just starting in this power class.

Priming directly into the cylinder
(Continued on page 77)

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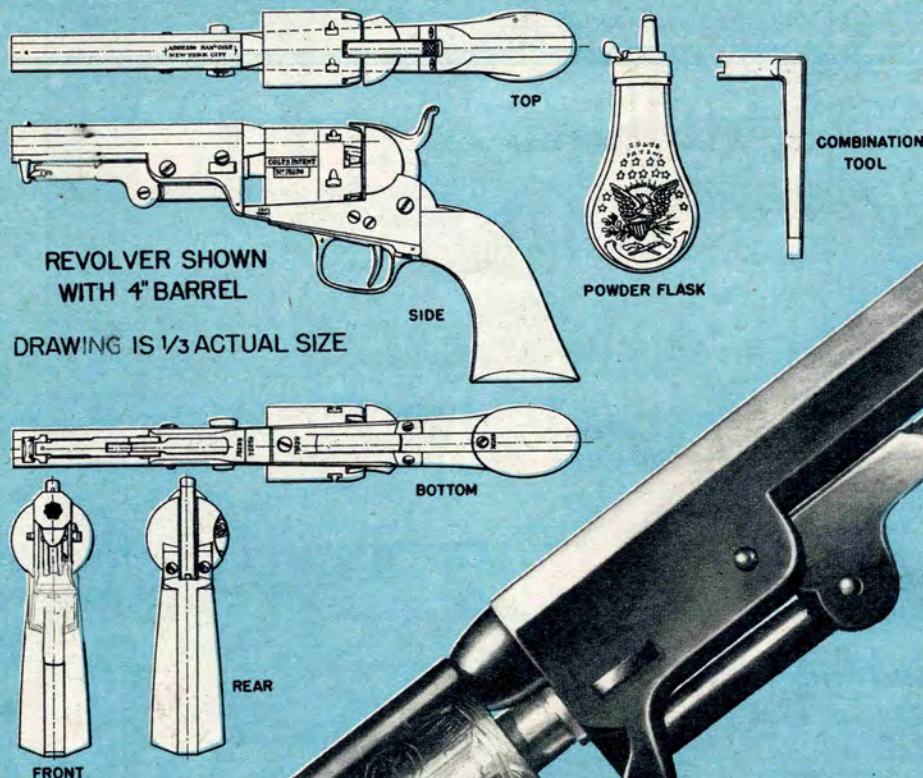
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A COLT POCKET REVOLVER of 1849

Life was not safe in the Wild West days unless a man was quick on the draw with one of these famous Colt persuaders

■ With the discovery of gold in California in 1848 thousands headed westward. During those gold-rush days and the rip-roaring years that followed, the West experienced a tremendous demand for firearms.

Sam Colt's massive five-pound Dragoon revolvers available at the time proved to be far too bulky for the early prospectors. A pocket weapon was needed, and in 1848 at Colt's new Hartford factory in Connecticut a small version of the famous Dragoon was made. This gun was called the "Baby Dragoon" and later the "Wells Fargo Model." Many pony express riders and stagecoach guards of the day carried one or more. In 1849 this gun was improved by the addition of a loading device and became known as the "Pocket Model of 1849." It was a five-shot, .31 caliber percussion revolver and was made with barrel lengths of from three to six inches. It was manufactured until 1872.

These little arms were made in a variety of finishes and the cylinders of all of them were nicely engraved with a stagecoach hold-up scene. Some of the guns were engraved overall with various designs. Some were nickel, silver or gold plated, and the fancy presentation models had decorations inlaid in gold or silver. The hand grips were of polished walnut, cherry, elephant ivory or pearl. Many of the guns were furnished in a fine case with powder flask, bullet mold, tools, percussion caps; etc.

The method used in loading and firing these old cap and ball revolvers was simple. A black powder charge was poured from a flask into the chamber in the cylinder. A soft lead ball was then placed in the opening of the chamber and the loading lever pushed down, ramming the ball tightly over the powder charge. A bit of grease was next put into the chamber over the ball. The grease sealed the chamber and helped in preventing the flash from the chamber being fired from igniting the powder in the other chambers prematurely. The grease was also an aid in lubricating the inside of the barrel. A percussion cap was fitted over the nipple at the rear of the cylinder. When all five chambers had been loaded this way, the gun was ready to shoot. The hammer, striking the percussion cap, would fire it, which in turn exploded the powder charge in the chamber and discharged the ball, or bullet.

—J. M. Triggs

Air Trails HOBBIES For Young Men

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MR. SHIPP

Top photographic team in aviation today consists of Howard Levy and Warren D. Shipp. This pair is represented in the new "Air Progress" by such fine pictorials as "Mr. Mantz' Private Air Force," "Weird Wings Aloft," "French 'Home-Bilts'," "From Dog Tags to Glad Rags," etc. In addition they made many important contributions to other photo collections which highlight the 1954-55 edition of "Air Progress—History of Aviation" including "The Era of the Guided Missile," "The Whirly Birds," "The Experimental Aircraft Association," and "Navion: Plane of Many Faces." Working together, the Levy-Shipp team has collected over 100,000 aviation negatives and has supplied all types of airplane pictures for all types of customers the world over.

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Air Progress

1954-1955 ISSUE

A STREET & SMITH PUBLICATION

What's Your Hobby?



WEAPONS COLLECTING

— Says Keith Parker

"I am a young 14-year-old gun and weapons collector. I first became interested when I saw a friend's collection. I have made enough extra money buying, trading and selling guns to the point where I always have adequate spending funds. I recommend my hobby to anyone who finds the history of firearms fascinating." —K.P., Kewanee, Ill.

Now . . . What's your hobby? Is it of special interest to mechanically minded young fellows? If so, tell us about it! Send photographs, details on how you got started, to "What's Your Hobby," Air Trails HOBBIES, 304 E. 45th St., New York 17, N. Y. We pay you \$25 for first photos, \$5 for extra photos so used.

(Continued from page 75)
through the exhaust port proved best. With the proper amount of fuel thus administered, backfiring tendencies ceased. Quick starts were accomplished regardless of engine temperature. Purposely stopped during high speed runs, our "35" was repeatedly restarted with one or two flips.

Needle valve adjustment is very broad and positive. No "floating" was encountered during the entire test period.

Running with a 10/6 propeller, our test engine registered a little better than 12,000 rpm, which is slightly over its recommended speed. With a 9/6 propeller this speed was upped an additional 1,000 rpm. There is no doubt that with smaller or lower pitch propellers the Veco .35 will turn up at greater rpm. However, this engine was designed to power free-flight, control line stunt and radio control models and was not designed for sustained high speed work. Therefore no attempts were made to register higher speeds than those recorded for this test.

Next Month:

BILL ATWOOD'S

Air-cooled Half-A
Inboard Boat Engine

ANTIQUE GUN NEW LOW PRICES

CONSTRUCTO KITS



ALL PARTS AND FITTINGS
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TIC REPLICAS OF FAMOUS
HISTORIC PISTOLS. MAKES
A HANDSOME FIREARM.

Luger 9MM—2.50



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Flintlock (Duelling)—1.75



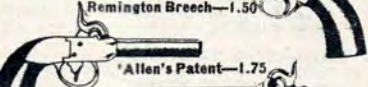
Colt .380 Automatic—1.95



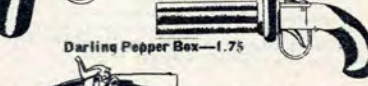
Colt .44 Dragon, 3RD—2.50



Walther P-38 Automatic—2.50



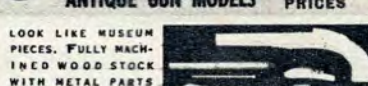
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*With Cast Metal Parts

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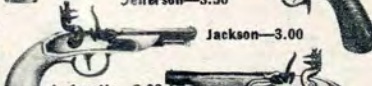
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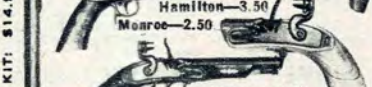
Jackson—3.00



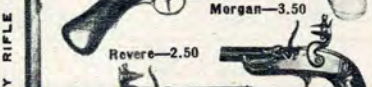
Lafayette—3.00



Washington—3.00



Adams—3.00



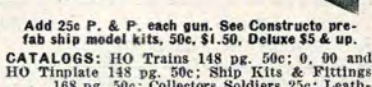
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Complete carb., ready to install.....\$4.85 each
THREE POSITION SOLENOID for operating two speed carburetor. Operates on 3 to 6 vdc.....\$5.75 each



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Talco/Elect Automatic Mk/II propeller for engines of .09 to .30 cu/in./dis. Higher top speeds and all around improved engine performance is assured with a constant speed prop.
This is the perfect propeller for flying scale R/C, and control line, stunt, carrier and sport. Complete propeller with installation and adjusting data. Specify engine make and displacement.....\$5.35 each
REPLACEMENT BLADES made of a tough cellulose acetate material. Takes less time to change than any wood prop, but we dare you to break one. (same blade comes with Mk/II prop.).....75¢ each

PROPORTIONAL R/C CONTROLS
Write for free bulletin TM-3000 'Proportional control Systems for model aircraft'.
Mechanical Pulse box and actuator both for under twenty dollars. Not available until after Jan 1st. Watch this column in next month's AIRTRAILS. Write for bulletins on all products today.

All Talco Microvics products are available to the hobby shops in the United States and Canada. In some cases where our products are not available through local dealers, they may be obtained from TALCO MICROVICS, Post Office Box 135, Oakland Gardens, N.Y., Flushing, L.I., New York. All correspondence should contain return postage. No C.O.D. orders can be accepted.

WHICH is WHICH?



They look alike. Both are small fighter planes. But one is a North American Sabre (F-86D) and the other a Grumman Cougar (F9F). Would you know this if you saw them flying overhead? It is easy with our new...

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Under Control

(Continued from page 17)

There were three events; Precision event was won by Ray Mierzejewski, while Phil D'Ostilio took the Stunt event; Phil also had 2nd in Precision and 3rd in 2-Mile race, thus winning John K. Ross Perpetual Trophy as New England R/C Champ. The 2-Mile race was won by J. R. Rimmer and was a tough test for all who tried it; it was 8 laps around a quarter-mile triangular course, but only three contestants completed the full distance. Due to strong wind, top time around the closed course was only 14 mph.

All contestants at this meet signified their interest in forming a New England R/C group, with annual dues set at about \$2; members would not have to pay any entrance fees at meets sponsored by the group. It was also suggested that there might be some arrangement within this framework that would also apply to R/C boatmen; those interested in this proposition may write to John K. Ross (23 Lantern Lane, Wellesley Hills, Mass.) stating their interests, so that things may be got underway for the 1955 season.

The Milwaukee Flying Electrons held two good meets the past season, and also an R/C Turkey Fly (nope, the planes do the flying—the fowl are just the prizes!). Vic Weissbrodt (2100 E. Webster 1, Milwaukee 11) says he has an Over & Under just about ready, and that Al Secklin has been flying an Alex Schneider-style Cub Cruiser, fitted with a 2-channel tone rig that has three tubes and two transistors; B drain is only 1/2 ma. idling, and rises to 8 ma. on signal. Vic notes that his club still has 50 active members; one of them who had been building a 20-ft. span 6-channel R/C plane has been ill for some time, so work on the 145 lb. monster will have to be postponed.

R/C Event at Southwestern model meet had 20 entrants, according to John T. Deden (2909 Materhorn, Dallas). Top man was Ben Beaird (Dallas) who flew Jack Port's Hi-Q design with WAG 3-tube tone receiver working escape-ments. It was his first contest, incidentally. Rogers Barton (Austin) was 2nd, and Lew Faerman (Houston) 3rd. John says there are plans afoot to push an R/C organization in the area, with meets sponsored by the group once a month; plans not definite at the moment, but local flyers may get up-to-date news from Mr. W. H. Howell (1918 E. 6th, Irving, Tex.).

R/C Picnic Time. After the heat of the spring and summer contest season, many R/Cers welcome the non-competition style of meeting. These fly-for-fun events are especially popular in the mid-west, and we have heard of two get-togethers in Iowa, where such doings are very popular. The Des Moines R/C gang held their picnic at Grimes; Paul Johnson flew his scale Monocoupe and Jack Williams his "Half Shot"—a miniature Hoosier Hotshot. Several low-wingers were in the air, and Dick Arland flew his big Guff-like plane fitted with glow-plugged Brown Jr.!

Another R/C picnic was held by Waterloo Prop Twisters at Plainfield; again lots of yak-yak, good flying and loads of ice cream.

New R/C club being formed to take in towns of Farmington, Northville, Redford, Garden City, etc. (to the west of Detroit, Mich.) and info may be had

from Art Ryan (31770 Junction, Farmington), or phone him at Farmington 2306J. Club has an 80 acre field at 7 Mile and Newbury Roads—all R/Cers welcomed.

General News. Radio activity is picking up in the vicinity of Kingston, Ontario, if we are to judge from the letters of our old friend Jack Luck (108 Florence, Bath Road P. O.). Jack has been away from modeling for several years, but was quite active in R/C up to 1950. Says he is astonished by the progress since then.

He is a genuine student of model aerodynamics, likes the unusual; has built several R/C biplanes and now has several low-wing and shoulder-wing designs under consideration.

The Bristol Aeromodelers plan on having an R/C Class this winter, open to all club members. Al Abrams, Jr. (1031 Pond St., Bristol, Pa.), who publishes the monthly "Flypaper"—informative news sheet of all sorts of model doings (a feature is a full page of R/C info each month)—says there is not too much radio activity in his vicinity, though he and his father have an R/C boat, and Hank Weller and Ivor Winby fly R/C planes. Ivor will conduct the R/C class, which is expected to stir up interest in this type of building.

A correspondent who signs himself only "Alan, VE7AIZ" (Box 2114, Route 5, Victoria, B.C.) tells of some of the problems encountered by a lone wolf R/Cer. He is a fairly active ham, and uses 53 mc. for R/C work; so far he has had some good flights with a Jasco Floater, but receiver problems plague him. With RK61's at \$5 each, he has been concentrating on hard tube receivers, but is not too happy with the results.

Technical Dept. Jerry McGeorge (2239 Ridgewood Ave., Highland, Ind.) has used a Mac II transmitter for several years with fine results, but noted recently that it didn't seem to put out as it used to, judging from field strength meter checks. He had always charged the 2 V. cell for several hours after every flying session—thought this was more than enough to keep the cell at full charge. He recently obtained a tiny hydrometer at a motorcycle shop and was surprised to find that his "fully-charged" cell read only 1220. However, 12 hours' charge brought it up to 1275 on the hydro, and the transmitter then put out as it should. Moral—don't pay too much attention to those green, white and red balls in the cell. They are a good rough charge guide, but that's about all.

Jerry has another hint; he has been using a two-tube receiver of the type



"Must have gotten my receiver tuned to the 'Can You Top This' show."

Air Trails HOBBIES For Young Men

developed by Paul Runge, where a Mini-Mac receiver is followed by a direct-coupled relay tube. Jerry prefers a 526 tube in the first position, followed by a 1AG4 or MPC-1 in the second. He has never had too good results when using 22½ V. batteries (two are needed) on this receiver, but with 30 V. batteries the receiver is a standout.

And one last hint; Jerry decided recently to build an Over & Under stunt plane, got one of the Hobby Helpers plans, then bogged down making up a Bill of Materials. Consultation with Harold deBolt brought out the fact that the O & U was developed from the Live Wire Cruiser, so a kit for the latter (advertisement intended!) put Jerry on the right path.

Bob Trainer (12506 Holdridge Rd. Silver Spring, Md.) writes that some builders have had difficulty getting the electronic pulser (p. 11, June 1954 ATH) perking correctly. The difficulty seems to be caused by contact bounce in the right-hand relay, which controls the transmitter. Cure is to use a relay here that has two sets of contacts, one set doing nothing but controlling transmitter. Cheap non-sensitive relay may be used, as long as resistance is about as shown. Bob has been doing a lot of work with transistor control system for R/C, with good success; we expect to have some of his circuits in ATH soon.

John Dixon (13444 W. McNichols Rd., Detroit 35, Mich.) has a couple of improvements for the Trammell proportional pulser (p. 52, Jan. '54 ATH). He suggests the use of a Sigma 5F relay, and substitution of a 3Q4 shown in the original circuit.

Most flyers who have motor control operated by an escapement fit an extra switch or pushbutton to the plane, so motor control can be checked or set as desired before flight. Much simpler means of doing this is used by Carl Schmaedig (69 Prescott Turn, Clark Township, Rahway, N. J.) who just uses a short piece of Nylon cord attached to escapement armature with pliobond cement. Knotted end of cord hangs a short distance out of small hole in one of the cabin windows; a pull on cord steps escapement around as desired.

Commercial Dept. Hermetically sealed crystals for 27.225 mc. are offered by Pan-Electronics Corp. (901 W. Peachtree St. N.E., Atlanta, Ga.), and retail for \$3.95 each. These crystals are checked for frequency and activity before shipment, both in production-type test equipment, and in a representative R/C transmitter; part number is P-23, and units have .05" dia. pins.

Citizen-Ship Radio Corp. (909 Westfield Blvd., Indianapolis 20, Ind.) offers free decals to users of their R/C equipment; write to above address for these new decals.

Nylon gears useful to model makers are sold by John A. English & Co., Morrisville, Pa. Though concern normally sells only in large quantities to manufacturers, they offer a kit of gears for \$4.00 to individual hobbyists; kit contains two each of 16 different sizes of gears, from 12 to 80 teeth. All gears in kit are 48 pitch, ¼" wide, and they have center holes from 3/32-¼" dia.

A 3-channel reed receiver with 3 sub-miniature tubes is available from Electronic Model Engineering, Inc. (6127 Alta Ave., Baltimore 6, Md.) for \$79.50, wired and tested. Receiver utilizes E. D. reed unit and Neomatic relays. Plans for this receiver may be had for \$1.00. Concern also sells 4-channel reed re-

(Continued on page 83)

NEW MODEL RR-5 RECEIVER

Dependable 5-Channel resonant reed receiver. Engineered for simple tuning, low current drain and high sensitivity, weighs 8½ oz., size 4½x27/8x1½ inches. Complete, fully assembled in attractive grey hammertone case.

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0-5 Ma.....2.75 0-50 Ma.....2.75

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Closed circuit......15

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VARIABLE CONDENSER, air type, screwdriver shaft, 15, 25 or 50 mmf......40

RECEIVER PLATE COIL CTC, with adj. iron core Wound for Lorenz, S. Single, Johnson, Mini Mac......55

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Telecommander Revamps Its Hard Tube Receiver

■ An improved model of the E.C.C. 27 1/4 mc. single hard-tube receiver has been announced by American Telasco Ltd., American representatives for this well-known R/C line. The No. 951B supersedes the previous No. 951A, and is equipped with the Telecommander P100 polarized relay (which may also be purchased separately).

Basically the new model is pretty much like the earlier one, but a few improvements have been made, in addition to use of the much sturdier relay. All connections to the receiver, including that to the antenna, come out to six metal pins, and a six-prong socket is furnished for the battery leads. Since the socket will go on the pins in either of two directions, red dots are painted on the set and the socket, and should be lined up before snapping the socket in place.

All parts of the receiver are attached to a molded bakelite "chassis"; this plate has a hole through which the tube projects. A strong protective bakelite cover fits over the works, and is held on by four corner screws, which also hold hooks useful for suspending the receiver by rubber bands. There are two coil forms molded integral with the top plate, and these have been strengthened considerably over those in the earlier model.

Adjustments for tuning and sensitivity are made by means of threaded slugs

which project through the top of the case on the opposite side of the tube from the connection pins. The slugs are waxed so that they will hold their settings regardless of vibration. These are all the adjustments to be made on the receiver; the relay comes already set to operate at 2.2 ma. and release at 1.8 ma., and should not require readjustment. In fact, it is wise not to open up the set at all, for the manufacturer's guarantee is voided if the cover is removed.

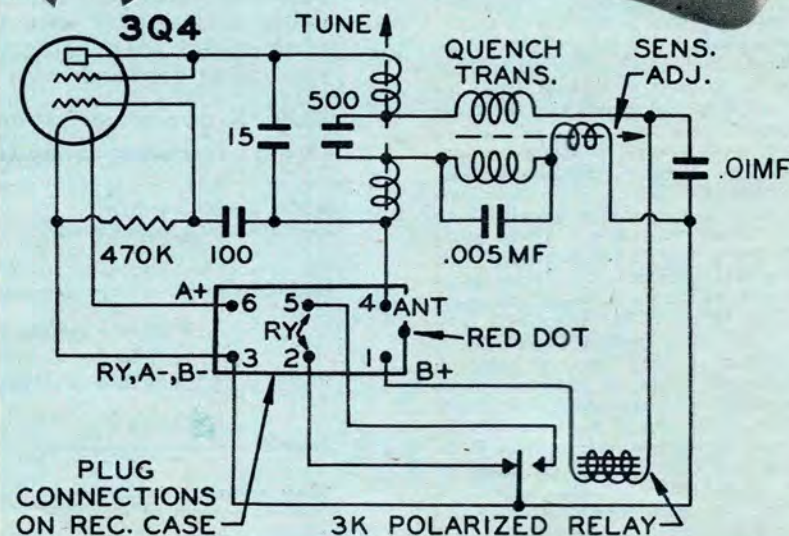
The receiver is intended for use with 60-90 V., and like most hard tubers, will be found somewhat more sensitive with the higher voltage; however, sensitivity was found to be adequate when used with the standard 67 1/2 V. battery. Specifications show the currents obtained at this voltage and with a weak signal. With 90 V. on the plate, the idling current was about 1.4 ma. higher than shown, but the on-signal current was only .2 ma. higher. With a strong signal, the on-signal currents were both .2 ma. lower.

Since both contacts of the relay are brought out to connection pins, the receiver may be used for both escapement or proportional controls. The makers advise the use of an arc suppressor which may be connected externally; a 50 ohm resistor and a .1 mf. condenser may be connected across points 3 and 2, 3 and 5, or both, as required by the control system.

(Continued on page 82)



American Telasco's 951B Telecommander 27.255 mc. receiver for radio control features 3Q4 tube circuit and self-contained P-100 sub-mini relay.



(Continued from page 73)

a hobby shop at the base but carry only plastic planes, and no cars.

"Just to give you some idea of this place, there is nothing to do here in the way of recreation. I have two cars in our shop, one Dooling and one McCoy. These cars are placed in the window once in awhile and you should see the people come in to find out about them. . . . Model car racing can be turned into quite a thing here once a track is made. . . . This is a country where no roads lead out and we have to make our own fun. Everyone has time and money—all they want is something to do." Does anyone have any plans for a folding or portable track? Send 'em to Paul if you know anything about such a track.

Model Car Racing in Hawaii? A letter from Robert K. Sato (Sato Auto Supply, Box 1957, Honolulu 5, Hawaii) brings out another group who want to make a portable race car track. His concern deals in hot rod equipment for big cars, and it appears that many of his customers are very much interested in model racing, and would love to go into it actively. Since it is understood that tracks cost a lot of money to set up, Mr. Sato feels the portable type might be the answer. He asks if we have plans for such a track. Sorry to say we don't, but if any of our readers have, we wish they would let us know. Or perhaps some of the groups who have a permanent installation may give us some pointers and an idea of costs, so that groups such as that of Mr. Sato can get going. Let's spread the word!

Air cars—that's what interests Gene Thompson (Box 1194, Denver City, Tex.) the most. He is building an air car of his own design, to be fitted with a Fox .35. Gene suggests that builders of such cars fit a "roll bar" a few inches from the engine; in case of turnovers, the bar will protect the engine head and the glow plug, so that both will last a lot longer. Might be worth trying.

Full-sized plans for the Pegaso in the Nov. issue of ATH may be had from Hobby Helpers (770 Hunts Point Ave., New York 59, N. Y.) on their Group 1154, which also contains full-sized plans for two model planes and a hot sea sled. This concern publishes full-sized plan sheets of many of the projects that appear in ATH, and have a 24-page catalog of those that are available, which costs only 10¢.

NATIONAL COMPETITIONS FOR YOUNG MEN

More than \$90,000 in cash, scholarships, and trips!

►►►► Conservation Essay Contest Sponsored by National Wildlife Federation and its State Affiliates. Two divisions: Junior High School students, and Senior H.S. \$275 in cash prizes (\$100 First) to Junior students for best essays not over 500 words on subject "What Good Is a Marsh?" In Senior High division, \$425 (\$250 First) in cash prizes for best essays not over 1,000 words on subject "Why Save Our Marshlands?" These are national awards to entries picked from State winners, who in turn are chosen from local winners. Thus, you must submit essay through a local sponsoring club connected with a State Affiliate. Winning local entries must be in hands of state contest judges by Jan. 1, 1955. Your teacher can get all information from Essay Contest, National Wildlife Federation, 232 Carroll St., N.W., Washington 12, D.C.

►►►► 20th Annual National Essay Contest sponsored by the Ladies Auxiliary to the Veterans of Foreign Wars. \$2,000 in cash

awards (1st prize, \$1,000 and gold medal) to high school students for best essays not over 1,000 words on subject "What Civil Defense Means to Me." Also local and state awards. Contestants first submit entries to local Auxiliary, which submits to State Auxiliary; National winners chosen from State winners. Deadline for local entries is March 15, 1955. If there is no local Auxiliary in your town, your school or town paper may act as sponsor. Have them contact National Headquarters of Ladies Auxiliary to the Veterans of Foreign Wars, 406 W. 34th St., Kansas City 11, Mo.

►►►► National High School Essay Contest sponsored by Advertising Federation of America and local member Clubs. Grand Prize \$500 and free trip to Chicago to attend Federation's convention June 5-8, 1955; other cash awards plus local prizes. Essay must be not over 1,000 words on subject "How Advertising Affects Our Lives." Contest restricted to those cities and areas having member Advertising Clubs, which conduct local contests that in turn produce candidates for national contest. Contact local club for its closing date. Nat'l contest closes April 18.

►►►► 11th National Traffic Safety Poster Contest sponsored by the American Automobile Association, Washington, D.C. and affiliated AAA clubs. Open to any school student, any grade, with cash prizes totaling \$3,175 awarded to three separate age groups: elementary, junior high and senior high. Closes March 9, 1955. Full details from National Poster Contest. American Automobile Association, 1712 G St., N.W. Washington 6, D.C.

►►►► 1954 School Press Project, sponsored by National Tuberculosis Association and its affiliated Associations and the Columbia Scholastic Press Association. Certificates of Honor awards to any regular student-edited publication that includes press campaign around subjects "Fifty Years of Tuberculosis Control" and "This Is Tuberculosis." Entries consist of one or more issues of such publications. Staffs may submit entries up to Jan. 1, 1955. For full data contact your local Tuberculosis Association.

►►►► 1954 Science Talent Search, sponsored by Westinghouse Educational Foundation, conducted by Science Clubs of America. \$11,000 in college science scholarships to 40 high school senior students, for original science projects; first prize worth \$2,800. All 40 finalists get free trip to nation's capital to attend 5-day Science Talent Institute beginning Feb. 24, 1955. Don't forget—all entries for this one must be in Washington by midnight, Monday, Dec. 27, 1954. Consult your science teacher or principal.

►►►► 8th Annual High School Essay Contest sponsored by National Sales Executives, Inc. Boys' division: \$1400 in cash prizes for best essays not over 1000 words on subject "Selling as a Career." (1st Prize \$1,000 and all-expense trip to NYC.) Closing date for these national awards is April 1, 1955. All entries are first submitted to your local member club of National Sales Executives, which has own closing date and awards local prizes.

►►►► Industrial Arts Awards annual competition sponsored by the Ford Motor Co. More than 1500 individual awards valued at \$50,000 are given each year. Open to school students in grades 7 through 12 enrolled in shop, drawing or printing courses. For information write Industrial Arts Awards, Ford Motor Co., 3000 Schaefer Road, Dearborn, Mich.

►►►► National High School Photographic Awards open to any high school student. Total of 256 prizes amounting to \$5,000 in cash. Ends March 31, 1955. Details on entering from National High School Photographic Awards, 343 State St., Rochester 4, N. Y.

►►►► Fisher Body Craftsman's Guild sponsors car design and model building contest. \$20,000 in scholarships plus numerous state and regional awards. For details write Fisher Body Craftsman's Guild, General Motors Bldg., Detroit 2, Mich.

►►►► First annual competition for papers on "Upcurrents" offers a total of \$400; sponsor is the Munitap Foundation, Inc.; the American Meteorological Society and the Soaring Society of America are cooperating agencies. Deadline for entries is May 1, 1955; inquiries should be addressed to Dr. Paul MacCready, Jr., 1202 E. Green St., Pasadena 1, Cal. Glider pilots and free flight modelplane flyers are in a unique position for making appropriate observations, so they in particular are being invited to participate, but anyone may enter.

►►►► 7th Annual National Employ the Physically Handicapped Essay Contest. \$2,000 in cash prizes (plus transportation and expenses to Washington), plus local prizes or scholarships. Closes March 15, 1955. For details write to the sponsor, The President's Committee on Employment of the Physically Handicapped, Washington 25, D. C.

GYRO FREE-New Radio Control Catalog The Most Progressive & Reliable RADIO CONTROL SUPPLIER

NEW! Submini. CLOSED CIRCUIT JACK.....	.20
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Complete kit of parts (less tubes & relay).....	\$ 5.65
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2d stage & RK-61.....	8.25
With tubes & 10,000 ohm relay.....	9.65
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AWARDED AS 1st PRIZE, N. Y. MIRROR AIR SHOW	
IMMEDIATE DELIVERY. The most POWERFUL (3 Watt) TRANSMITTER at the LOWEST PRICE. Famous 2 Tube MAC II circuit, featuring GYRO MAGIC TUNING INDICATOR. Completely wired & tested, includes 9 1/2" ft. sectional antenna, remote "clicker" Keying Switch, Meter, Ground plane Booster, Shorting Plug, Beautiful Cabinet 12" x 7" x 6". Available in the following models—all with money-back GUARANTEE.....	
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GYRO X2 TRANSMITTER, as described, with built-in dynamotor for operating from 6 Volt Auto battery. GUARANTEED—Complete (less battery).....	31.50
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MODEL X, MAC II, 2-tube TRANSMITTER UNIT, as used in Gyro transmitters. Only 3"x4"x1 1/2", wired and tested. Complete, install in your case with tubes & crystal. Above unit in kit form, with tubes and crystal.....	15.50
Brand New 2 V. VIBRATOR TRANSFORMER, used in PEI 87. Output 180-135 V. @ 35 Ma. NEW! STOP WASTING MONEY on gyro batteries for your transmitter. Add our 2-VOLT VIBRATOR SUPPLY to any transmitter; output 135 to 180 V. Kit \$6.95; for MINI-Batteries.....	3.50
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SOUTHWESTERN ACTUATOR.....	5.95

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2,000, 3,000 or 10,000 ohms.....	5.95
SIGMA 41FS, Sensitive 10,000 ohms—SPDT.....	1.45
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WHIP ANTENNA, 3 sections, 9 1/2 ft.....	2.25
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NOTE: All GYRO kits are guaranteed complete deluxe	
2 tubes with diagrams—nothing else to buy.....	3.35
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MILLER or SIMPLE SINGLE with OSR.....	9.80
Complete with Tube & SIGMA 4F Relay.....	4.75
MILLER, \$9.95; SIMPLE SINGLE.....	13.85
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WESTERN RADIO CO.
Box 1526, Sacramento, Calif.

Telecommander

(Continued from page 80)

The Telecommander No. 951B receiver is available only in finished form, and is widely distributed through hobby shops. It comes complete with tube, relay, six-pin connection socket, battery connection wire, test meter plug and socket, and a 3 ft. length of antenna wire. Also, of course, complete instructions are furnished.

Specifications. #951B receiver; single hard tube type using 3Q4 7-pin miniature tube. Overall size including tube—2 1/2" x 1 1/2" x 1 3/8". Tube projects 1" above top of case. Two controls (for sensitivity and frequency) project from top of case, as do six connection pins. Weight with tube—2.96 oz. Antenna length from pin 4 on receiver—no greater than 3 ft.; may have to be reduced in some installations, such as in boat, or antenna series condenser used.

Power requirements: A—1 1/2 V. at 100 ma. B—60-90 V. With 67 1/2 V., current drain on weak signal was 3.3 to .6 ma. Lightest possible power supply—about 4 oz. (two pencils in parallel and two Eveready #413 or equiv. 30 V. batteries in series). Heavier batteries such as medium flashlight cells and Eveready #430 or equiv. are recommended.

Training Car

(Continued from page 33)

gummed tape used for the decorations.

The control box comes next, and parts may be mounted as you wish. The largest item to go in the one shown was the model railroad type reversing rheostat—a good unit for this purpose, since it combines on-off, high-to-low speed and forward-reverse action, all in one unit. We strongly advise use of the model listed; this goes for the other parts in the power supply, too. A balance had to be reached between what the power supply could produce, voltage drop in the cable to the car, and voltage for the relay and lamp. The parts recommended do the job nicely.

The cable specified has 5 leads of #22 stranded wire, and is good for up to 20' or so. If you want greater radius than this, it is best to use cable with larger conductors for the motor power. Belden 8446 is a good choice; it has two strands of #16, plus four smaller ones, which gives you an extra wire for still another operation in the car.

If you want to run the car away from the power lines, three or four dry cells will do the job; just break one lead to the rectifier, and connect the cells as shown in dotted lines on the circuit.

Parts Required

1 Pittman Panther Model 8001 electric motor.
1 Multi-Servo Model 2PN. 3 Veco 3" rubber-tired wheels. 1 buzzer, Johnson #114-400*.
1 relay, Potter & Brumfield No. KR5D*. 1 6 V. pilot lamp and socket*. 1 battery case and two D size flashlight cells. 1 4" x 5" x 6" case, ICA type 29442*. 1 Essex Lever-Action Rheostat, Model R-10. 2 pushbutton switches, Grayhill #4001*. 1 7.5 V. filament transformer, Thorndarson 21F15*. 1 2 amp. full wave bridge rectifier.

Control cable—Belden #8445 as required*. 5-prong plug and socket*. Materials for car body and chassis. Line cord and plug*. 4 1/4" shaft collars. 1 ft. of 1/8" drill rod or music wire.

Parts marked * may be had at electronics supply stores, such as Federated Electronics Sales, Inc. (66 Dey St., New York 7, N. Y.). All other parts may be had from well-stocked hobby shops.

Hobby Model World

(Continued from page 41)

size of his present collection (those will be real "giants"!)). In the meantime he goes right on adding to his collection of "miniaturizations."

Bouquet. And a nice one at that. In a recent edition of the "Hawksquawk," the official publication of the Wichihawks MAC, the "Y" sponsored club in Wichita, Kans., special note was made of the fine work of the East Dallas Exchange Club on the Southwest Model Airplane Championships. Said the paper: "They do a terrific job on their meet and every one of the club's 47 members is present at the meet and works like a Trojan. Only a few of the modelers in the Dallas-Ft. Worth area were used to run the meet, freeing all the others for competitive flying. The meet showed weeks of preparation and the complete set-up was finished the day before the contest. Telephone communication was available at all event areas and each area had its own PA system. This club makes enough money from this one meet to take care of its fund-raising activities for the rest of the year. It is a combination modelers-spectators meet which leaves nothing to be desired. We hope that Maurice Teter and the East Dallas Exchange Club will make this an annual affair."

New Miami Club. Called the Coconut Grove Glow Worms; emblem is a happy looking worm with illuminated nose, 2-wheeled gear and wings with end plates. Lance Hawkinson is the president; James Coquet the treasurer; Bob Graham the secretary. Meetings are held at the Coquet domicile. Flying is at the Coral Gables senior high football field. Group specializes in combat flying and team racing. They emphasize safety and are strong on pull tests since a lot of spectators turn out to see the Saturday night flying shows. Nearby modelers can contact the group through Lance; his home address is 3308 Macdonald St., Coconut Grove, Miami, Fla.

—The Dopester

WESTERN ROUNDUP

The Thunderbugs Annual found 135 entries piling up some very creditable times. The points system for sweepstakes was the same graphs as used at the '52 Nats wherein points are awarded on a straight line curve to what you did in comparison to the high time for that event. Although the total points end up pretty high it is the only system where you get credit for your flying instead of for your placing. When one considers that you fly for time, then the only plausible system that you can use for your champions is a system such as this.

The winners in this contest were: Half-A, Carl Raa Hauge, 15:05.5; Class A and high time for the day, Tom Beall, 26:23.0; Class B, Jack Oxley; and Class C, W. W. Gregory, 16:40. The sweepstakes winners as plotted on the "Everett" point system were: Open, Jack Kraft, 300 points; Junior, Martin Wolff, 241 points.

A recent copy of Ocie Randall's Fresno club paper reveals that he works just as hard as ever in putting out the news of the San Joaquin Valley's model builders. Ocie must feel like a father with hundreds of boys, the way he follows his model builders through life and the Services. He certainly has done more than his share to keep this model building going.

(Continued on page 86)

(Continued from page 79)

ceiver and transmitter ready to use for \$134.50, or in kit form for \$89.50. They also sell plans for many advanced R/C outfits, including 5-channel units, power supplies, transmitters for use on dry cells or on 6 V. supplies, etc.

A most useful item for field repairs is a 6 V. soldering iron which can be attached to car battery. Unit of this sort called the Flash SF100 is offered for \$2.85 by Burstein-Applebee Co. (1012 McGee St., Kansas City, Mo.), and they also list a transformer so that same iron can be used from 110 V. AC line—\$4.32. These irons give plenty of heat for heaviest repair jobs, heat up in a couple of seconds.

Ace Radio Control (Box 301 Higginsville, Mo.) expects to bring out a line of kits featuring printed circuit wiring plates. Several of these have already been announced and cover such receivers as the Mini-Mac, Mini-Mac two tuber, etc. Similar kits for popular transmitters, including the Mac II will be available soon. The printed circuit plates are made by the expensive etching method, and these kits will save the builder time, as well as assuring that he can't make a wrong connection. Ace continues to supply all types of parts and supplies needed for R/C work, as well as several lines of manufactured equipment.

Gyro Electronics Co. (325 Canal St., New York 13, N. Y.) has a new modulator that can be used with most transmitters by just plugging it into the key jack; modulator has a self-contained battery good for many hours of use, and a snap-type pushbutton to control modulation. It sells for \$9.95 ready to use, with battery and lead for transmitter connection. Gyro has good supply of closed-circuit phono jacks—25¢ for jack and plug. Concern offers battery charger for both 2 and 6 V. storage batteries, in kit form for \$4.95, or finished for \$6.95.

Electronic Specialty Supply Co. (58 Walker St., New York 13, N. Y.) will expand R/C stock to include many of the well known commercial makes of equipment now on market, including Babcock, Bonner, Citizen-Ship, deBolt, Deltron and ECE. These are in addition to the wide range of parts and kits that this concern has had in the past. Their own line of kits and finished equipment will be expanded; a new 400 cycle modulator will be sold in kit form for \$5.95 or finished for \$8.95. It is a stable one-tube unit that can be used to modulate existing R/C transmitters and is especially suitable for use with the Mac II, to which it may be attached by plugging into the key jack and making three connections for A and B power. A 5-channel multi-tone unit of similar construction will be ready soon, to sell finished for \$11.95.

Improved version of the E.C.C. Telecommander hard tube receiver, the 951B, is announced by American Telasco Ltd. (166 Spring Rd., Huntington, N. Y.). Main difference from 951A is use of the new P-100 polarized relay (also sold separately). Receiver will sell for \$21.95 complete with tube, relay, plugs, connection wire, etc. See ATH Blue Ribbon writeup for further information.

Control Research (Box 9, Hampton, Va.) is featuring the Controilaire SM-1 sub-miniature single tube receiver, which sells finished and with tube but less relay, for \$11.95. CR will soon have a simple field strength adapter, usable with any 3 or 5 ma. meter; other items coming are a proportional pulser and a low cost grid dipper. CR now carries complete Hillcrest battery case line, as well as cases made by Acme and Ectron.

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MECHANICS TECHNOLOGY SCIENCE

NEWS Review®

AIR FORCE Tactical Air Command is getting deliveries of North American F-100 Super Sabre. First one went to 436th Day Fighter Squadron based at George AFB, Victorville, Calif. In the meantime Pentagon placed an additional \$100 million for the supersonic fighter. . . . New helicopter speed record of 156 mph established in latest Sikorsky H-39 by Army Warrant Officer William Webster. Copter powered by 400 hp Turbomeca Artouste turbine.

BIGGEST attraction at Society of British Aircraft Constructors Farnborough show was the Poland Midge, superlight jet fighter prototype of Gnat, which will be the service type. Powered by 1640-lb. thrust Armstrong Siddeley Viper, diminutive plane spans 20 ft. 8 in., has gross weight under 5000 lbs. Capable of 600-plus mph in level flight, sonic in dive. Gnat will be somewhat heavier with twice the power. . . . Navy's atomic submarine U.S.S. Nautilus is equipped with rubber "ears." Special rubber panels, developed by B. F. Goodrich, form part of hull and house sonar detecting gear. Installed fore and aft, the "ears" share characteristics of ocean water, thus preventing distortion of sonar signals.

GRAND PRIX sportscar race, held yearly at Watkins Glen, N.Y., won by Phil Walters of West Palm Beach, Fla. in a Cunningham C4R powered by a 300 hp Chrysler Firepower engine, at an average speed of 83.3 mph for 22 laps of 101-mile road course. Second was James Kimberly of Chicago, driving a 4.5 (270 cu. in.) Italian Ferrari.

\$75 FLYING MACHINE (see photo) flown by Igor Bensen, veteran helicopter engineer, is the Gyro-glider, a motorless helicopter, built to fit the pocketbook of

the young flying enthusiast. Designed by Bensen Aircraft Corporation of Raleigh, N. C., the Gyro-glider can be assembled by an amateur builder from common water pipe, lumber and hardware.

FOUR LIVE PORPOISES were flown from Marine Studios, Marineland, Fla., to California in a Slick Airways cargo plane. Each was placed in rubber bag containing sea water in order to prevent skin from drying. The marine mammals, known to suffer from sea sickness when placed in boat after capture, experienced no trouble in the air. . . . Pratt & Whitney in conjunction with the Air Force will operate a \$30 million atomic aircraft engine plant in East Hartford, Conn. . . . Convair XF2Y-1 exceeded speed of sound in shallow dive. The plane was the second of the Sea Dart series, equipped with more powerful Westinghouse J-46 engines, instead of the J-34 of the first model.

AMERICAN AUTOMOBILE ASSOCIATION reports 500 radar sets are used throughout the country to trap speeding motorists, but there are many more signs warning of radar speed control than there are sets in operation. . . . Slowing down fast-landing jets has been a serious problem ever since jet propulsion became practical. Drag parachutes have been a help but plane manufacturers' dream was some sort of device that would reverse thrust as practiced by propeller-driven aircraft. First installation of such a device was accomplished by the Air Research and Development Command at Wright-Patterson AFB, on a Republic F-84F. Employing a series of cascades and two movable flippers, it diverts the exhaust gases and turns them forward, thus considerably reducing plane's forward speed.



Hobby Club Emblems

MINNESOTA HOT WATTS
MINNEAPOLIS, MINN.



Club was organized in February, 1953. Present membership is ten, with maximum held to 15. Meets every other Tuesday at members' homes where, after short business session, new planes and R/C gear are shown and discussed. Club holds weekly contests, choosing a Grand Champion at end of year. Contact man is Red Costlow, 1709 Lagoon Ave., Minneapolis.

WATERBURY MODELERS
WATERBURY, CONN.



This club currently boasts 20 members who are quite active in every phase of model flying, though main interest is centered around combat. Present officers consist of James' Gray, president, Stewart Stumpf, vice-president, John McKee, treasurer, and Dave Tracy, secretary. Mailing address for club is 713 East Main St., Waterbury, Connecticut.

Send your club insignia—with info on your group. ATH will pay \$10 for each emblem and report used here. Type data and send only printed emblems—no sketches.

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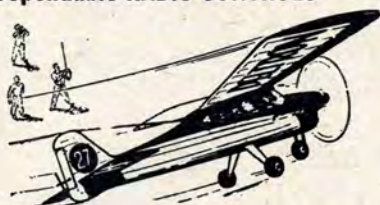
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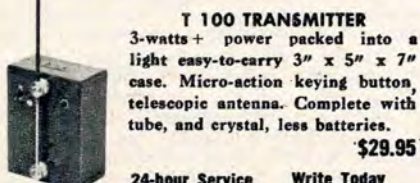
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(Continued from page 82)

The San Bruno Aerobats Second Annual contest had a total of 168 contestants who made 239 entries which, when one takes in the number of events, amounts to an awful lot of flying for one day. Carrier Deck is one contest which we watch for with much interest, and it was very unusual to see two of the top ships being multi-engined. Virginia and Ray Randall flew a Grumman F5F to first place and an enormous 426 points, while Gail Eckstein flew a F7F to fourth and 288 points.

In flying scale M. W. Monk entered a "Buster" and literally walked away with first, totaling 373 points, 42 more than '52 Nats winner John Tatone and his Topsy model.

Air Car Racing. The Ava-Toros' latest Half-A Air Car race produced more experimental cars than ever before along lines which will undoubtedly advance their design. Wheels have come in for a big play, with the boys striving for a long free run after the engine stops. Construction of the cars is also varying. Some aluminum tube streamliners have made their appearance as well as a tubular ducted fan experimental model. Gas tanks are being experimented with. One mechanical pressure tank was used but it is far too early to evaluate it. An electric starter was made by Bob Anke which gets a big play, but proved a misfortune to a lot of guys who neglected to turn down their needle valves before starting—glow plugs also go quicker! Gas tanks and wheels are two things which we have found to be critical. The wheels should have a deep hub to keep the tire on. Some wheels on the market do not adapt themselves to these air cars, with the tires coming off too easily. Line length was increased to 20 feet which makes 10 laps—one-quarter of a mile—with no increased drag effect possible due to the smoother run in the circle. Speeds have zipped to over 50 mph for the first time with use of .065 Spitfires and Atwoods. Mark Tackett's winning time was 51.2 mph with a Spitfire.

West Coast R/C. What the latest Pacific Radio Control Society's contest held at Crow's Landing lacked in quantity, it sure made up for in quality. With guys like Alex Schneider, twice national champion, Howard Bonner, twice runner up, and Dean Kenny, twice something or other flying in multi-channel, Dale Root and Webb Hill in single channel, you can expect some good flying. Take all this and the usual California weather and some sharp guys running a contest and you really have it.

Dale Root's "Miss Freak," his tiny Thermal Hopper ship now equipped with rudder and elevator, proved to be a very consistent performer and led in number of flights with 14 for the two-day meet. Pretty good at hitting cars, too, as a good long scratch on ours will attest! Webb Hill had an automatic flap set-up on his single channel 465 rig. The system was very unique and goes a long way in proving the amount of ingenuity that model builders have.

In the first place, it requires two Hillcrest plastic timers; these are the babies which lower the flaps. Coming off the head of his engine is a piece of copper tubing which is threaded to fit a tapped hole in the head. To this tubing is attached a needle valve and body for metering the bleed from the head compression. From this needle valve a piece of gas tubing is run to a Tee section of copper tubing fastened to the leading edge of the wing. From each end of the cross Tee another piece of gas line is run to

the timers. The head compression is metered to the timers to keep them closed by air pressure; when the engine stops the timers lower the flaps to a predetermined stop and the ship floats in.

The effectiveness of these flaps was ably demonstrated by Webb when he cut the engine at a height of about 800 feet and only 150 feet downwind from the spot; by hitting right, then left rudder he was able to slip the ship down rather fast while barely moving forward until the spot was reached. The roll after landing was less than 10 feet, which in itself was amazing, but you should have seen that model slipping. In a scale type ship it would have been very difficult to tell that landing from a real ship due to its very full-scale type of coming in.

—Dick Everett

SOUTHERN SCENES

W. M. Buchholz, Sec.-Treas. of the Exchange Clubs Aviation Corp. of Miami, Fla., is here with some late news of the 1st King Orange Internationals.

The meet is scheduled to take place Dec. 29, 30, 31 at Mainside Field Marine Corps Air Station, Miami, Fla., sponsored by the Exchange Clubs Aviation Corp. Hosts for this event will be the U. S. Marine Corps, who will provide all contestants so desiring with food and sleeping accommodations at reasonable prices. Bob Quick of Miami will be C. D.

As far as events are concerned, it looks as if there will be three full days of flying. All free flight events, with the exception of scale F/F, will be held, including the International events; F.A.I. Gas, Nordic Towline Glider, and Wakefield Rubber. Two radio control events are planned, AMA Precision Stunt and Radio Race. A special Sub Jr. event will be held for flyers up to and including 13-year-olds. This is a hand-launch glider event with pre-fabs accepted. Prizes will be awarded up to 20th place in this event. In the U-control division all classes of speed including jet will be flown. Also Navy Carrier, Team Racing, Scale, Stunt, and Combat are planned.

There will be a Grand Champion and three High Point Awards plus all-place winners with total value of prizes in the thousands of dollars.

Daily flight operations of the U.S. Marine Corps Air Station will be suspended for the duration of the meet. Also for the free flight boys, arrangements will be made for retrieving all models.

Average weather conditions for Miami during the late part of December are about 70 degrees F. with a humidity of 85% at 8 a.m., 60% at 1 p.m., and 70% at 6 p.m. Average wind is 12.5 mph. Elevation, 20 feet above sea level.

You don't have much time, but if you need to write for any information, address all correspondence to Exchange Club Model Aviation Corp., 55 S.W. 8th St., Miami, Fla.

Southeastern Fair. This year, as in the past, the Southeastern Fair was held in Atlanta. This event, every year, draws thousands of people from cities all over the Southeast. The fellows that are the backbone of model building in our area feel that placing modeling and flying before the eyes of such a huge audience will surely create more interest.

A large tent was set up at the fair where all types of models went on display. Along with being on display, they were entered in a model building contest. All the ships were placed in the category of either stunt, flying scale or free flight. The contest was divided into

(Continued on page 89)

"My Favorite Model"



"Modified Scatwood"
says Stan Hawkinson

"Here is a model hydro that really moves out," reports Lawton, Okla.'s S.H. "It is a modified version of the Scatwood. Constructed of $\frac{1}{8}$ " balsa formers and a planked $\frac{3}{32}$ " bottom and deck, the boat measures 16 inches long and 8 inches wide. It has a pitch-black, rubbed and polished finish which makes it very pretty when streaking through the water. When powered with an Allyn Sky Fury I couldn't catch it with an aluminum boat powered by a 7.5 hp engine! She may be small, but brother! this boat can really travel and look classy doing it."



WIN \$25.00 WITH YOUR FAVORITE MODEL

Send photo(s) of yourself & model plus details to "My Favorite Model" contest c/o Air Trails Hobbies For Young Men.

HOBBY CALENDAR

List your hobby club's public shows, exhibitions and contests here! There's no charge. Advise "ATH" not less than 90 days in advance. Give telephone of contact man if possible.

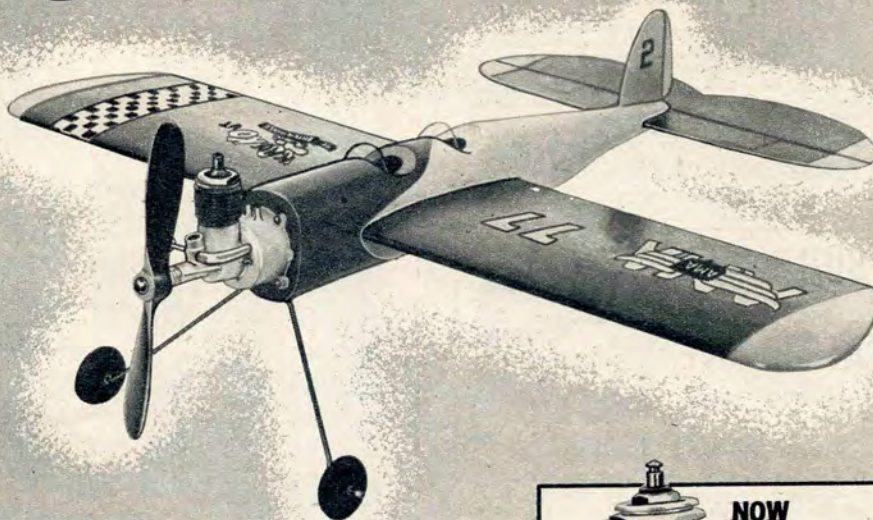
Address of contact man is in the same city as site of event unless otherwise specified.

SO. CALIF.—Dec. 12, F.A.S.T. Club's air-model team races, Keith Storry, 8509 Higuera St., Culver City.
FLA.—Miami, Dec. 29-31, King Orange air-model meet sponsored by Exchange Club, W. M. Buchholz, 35 S.W. 8th St.
OHIO—Cleveland, Jan. 2, 4th annual indoor air meet in Public Hall sponsored by Cleveland Coca-Cola Bottling Co., City Recreation Division and Cleveland Press, Charles Tracy, Aviation Editor, Cleveland Press.
ARIZ.—Phoenix, Feb. 20, 4th annual Southwestern Regional modelplane meet sponsored by Phoenix MAC, Q. T. Webster, 521 E. Camelback Rd.
OHIO—Cleveland, Feb. 22, 8th annual National Model Plane Exhibit (non-flying) in Higbee Auditorium. Sponsored by the Chamber of Commerce and Air Foundation. Events for all ages; entries judged for fine workmanship. Charles Tracy, Aviation Editor, Cleveland Press.

JANUARY, 1955

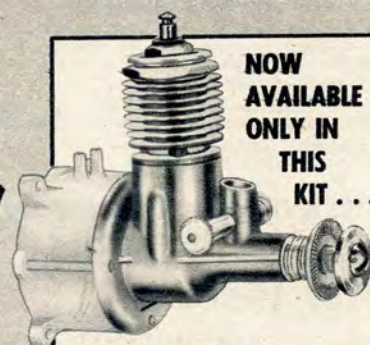
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Model Builders! Here's a listing of the nation's leading hobby shops. You'll want to file it away—and when you're in the neighborhood, drop in and browse around. They're expecting you.

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(Continued from page 86)

two age groups; juniors through 16 years and seniors 17 and over. In the junior class, winners received cash awards of \$15, \$10, and \$5 for 1st, 2nd, and 3rd places. Also in this class, five Honorable Mention prizes were awarded. The seniors were awarded ribbons for 1st through 3rd place, plus five Honorable Mention ribbons. All models were judged on sturdiness of construction, quality of workmanship, outer finish and detail, with the scale models being judged on authenticity of design. All judging was done by two fine scale men, Don Williamson of Delta Airlines and Steve Felker of the Atlantic General Depot.

Also as a part of the fair, members of the Georgia Congress of Model Plane Clubs participated in a two and a half hour flying exhibition in front of the grandstand. The Atlanta Team Race Club staged a team race with as many as five flying at one time. A hairy time was had by all who participated in the combat exhibition. As usual, many models were taken home in a basket. Danny Lee, of Decatur, did some fine stunt flying with his beautiful black semi-scale Me 109. The brother and sister team of Johnny and Jean Ann Peaire, along with Dan Berry and Carl Farris of the Cascade Beecher Model Club, also flew exhibition. . . . A very fine affair.

Meet Paul Duncan. From time to time we like to write of a person who is not well known nationally, but is a fine craftsman. Paul Duncan of 2028 Sandtown Road, S. W., Atlanta, Ga., is our man. Paul has been putting things together ever since he was eight, but he really went to work after a World War II sojourn in the Navy.

While building a collection of 30 model cars, he picked up a great deal of miscellaneous information about the early days of the auto age. For example, some 2,008 models have been built and actually run on the road since horseless buggies were first invented. Also, even in those early days, mothers-in-law were figuring in jokes and one manufacturer,

International Harvester, had the audacity to build the joke into its 1910 model. A one-passenger seat, set far behind the driver's seat which held hubby and his spouse, was reserved for the wife's mother, and called the "Mother-in-Law Seat."

Lately, Paul's interests have turned to model boats. So far, his collection includes the Dumas Chris-Craft *Challenger*, Sterling's 63' motor yacht and Sterling's *Century Sea Maid*. At present, he is building a 5' 10" model of the *Queen Mary*, the third largest ship afloat. His model will include every detail down to the last jewel in the ballroom's chandelier.

Paul doesn't stop at model cars and boats either—he is also a handy man around the home. After assembling a pepper mill lamp from a kit, he liked the model so well he started making his own. Now there are six Duncan-designed lamps over the house, from an artillery shell to a teddy bear base. One is built around a covered wagon. But the prize handicraft piece of the Duncan family is a 20" x 36" four poster canopied baby bed for their baby daughter. Done in a walnut finish, it cost about \$10 to make. He turned it out on a power lathe from gum, an inexpensive wood that takes a good stain, the finish coming right out of a can.

Gadsden, Ala. Good friend Joe Jones, formerly of Gadsden, Ala., now with Walco Sporting Goods of Atlanta, tells of increased model interest in his old home town.

The Gadsden Boys Club recently began a model building program under the able direction of Roscoe Pearson. The program has been under way about a month and already there is a membership of about 50 boys. Most are young and anxious to learn as much as possible about modeling. At this time 20 of the boys are active gas modelers flying free flight and U-control.

The Boys Club has made available a fully equipped workshop where the fellows may work and also hold classes.

Due to large number of members, the group is split into two classes, each class having one meeting a week lasting two hours. The first half of the meeting is devoted to movies about model building. The rest of the time is spent in the workshop where the boys work on their projects with the help of their instructors, Dalton Freeman and Jerry Madera. The idea is to start a beginner with a simple rubber-powered model and teach him the fundamentals of model building. With the help of these instructors the boys will soon progress to more advanced modeling.

Along with the model building program, the city of Gadsden is building a U-control flying field for these boys. There will be two grass flying circles with work benches nearby. The complete area will be enclosed for the protection of all spectators. The city also plans later to build a concrete circle in the area.

For the free-flight boys, the Gadsden Airport has made available one end of its field for any of this type flying.

Ga. Congress of Model Airplane Clubs again in '55 will hold its monthly contests for all the greater Atlanta model clubs.

Each club elected to put on a specific type meet, such as stunt, speed, etc. The Congress is paying for half the cost of the trophies and prizes, while the host clubs share the remainder, most of which can be made back by the club in entrance fees and concession sales.

Any member of a greater Atlanta club can compete in these meets.

During the month of September, the Cascade-Beecher Model Club held the first local meet, which was stunt. Two age classes were flown; a junior class and a class for senior-open combined. Though flyers were hampered by strong winds, all flights were finished without mishaps.

Walton Pyron of Decatur beat out Curtiss Comer for first in the senior-open group, while Danny Lee, also of Decatur, emerged top man in the junior class.

(Continued on page 97)

CLASSIFIED ADVERTISING

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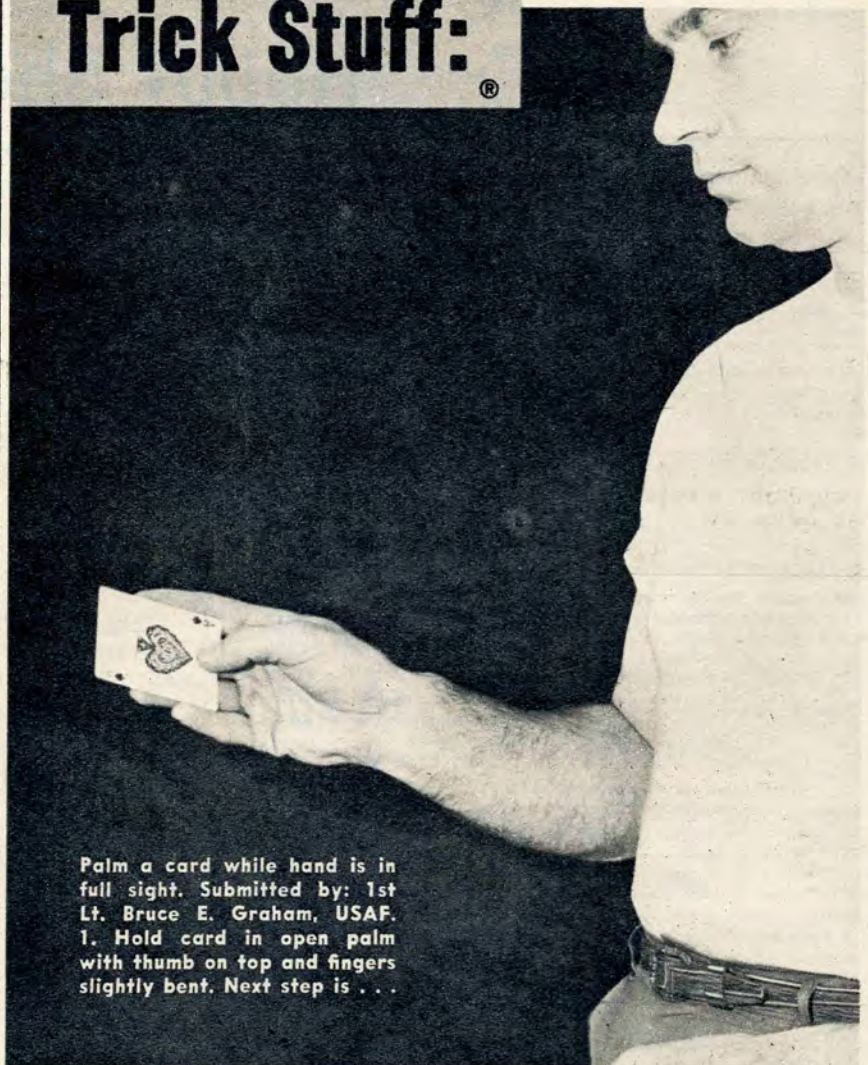
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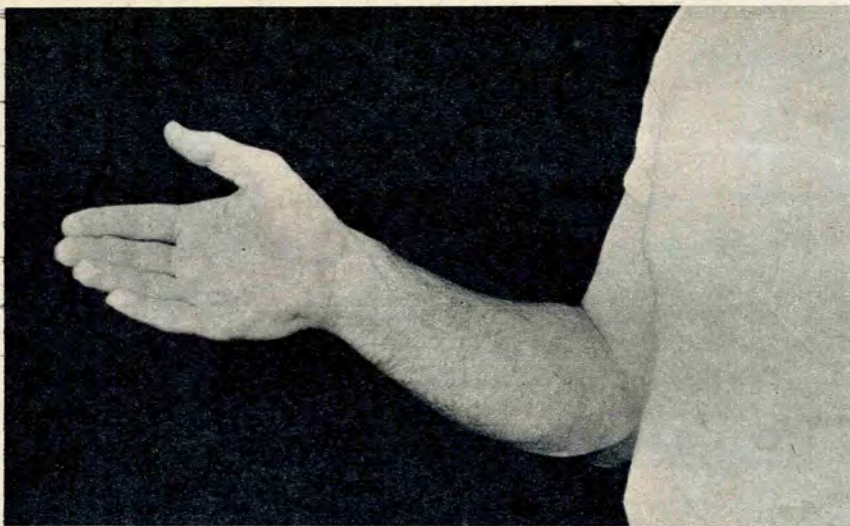
Palm a card while hand is in full sight. Submitted by: 1st Lt. Bruce E. Graham, USAF.
 1. Hold card in open palm with thumb on top and fingers slightly bent. Next step is . . .



2. Curl ring and middle finger toward palm, under card, and hold it between backs of these two fingers while you move the little end index digits to grasp edges of card as in photo. Be sure to place your fingers quite close to end of card. Its edges must be near the middle joints as this will insure card's being well hidden from view on the back of your hand. Remember to keep your fingers as close together as you can—it helps.

3. Now straighten out your fingers and the card flips to the back of your hand where you can hold it securely. With little practice you can do it so quickly that the eye cannot follow the card. Until sure of yourself, make "magic gestures" with the other hand to partially shield the actual palming, or keep hand in constant motion. This will distract the audience from any hitch you may possibly encounter through inexperience, while moving fingers.

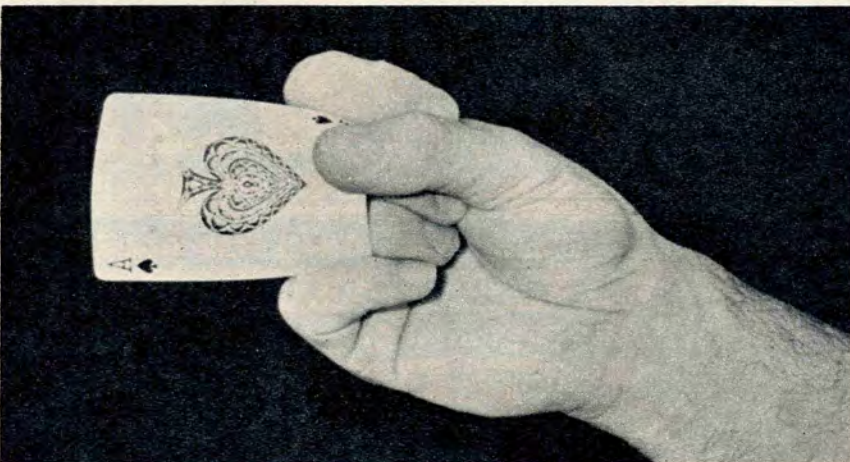




4. See . . . it's gone. But look closely between the index and middle fingers. A corner of card was purposely allowed to be visible as proof it is there.



5. There it is . . . Backstage view of disappearing card illustrates its proper position on back of the hand. Be sure that your audience does not see it!



6. To return the card, crook your fingers into a loose fist, grasp card with thumb and reverse original procedure. One good method of demonstrating this trick is to casually pick up a card and make a motion as if throwing it into the air over your head, then retrieve it from under the table or some other low object. If done quickly between tricks or as part of a regular routine it baffles them every time. Of course, while performing it, you must be careful that the back of your hand is never turned towards audience.

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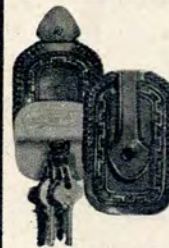
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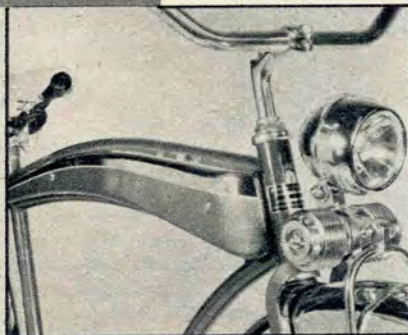
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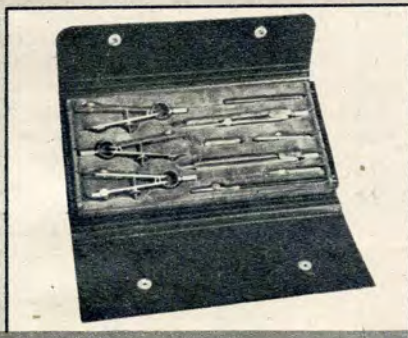
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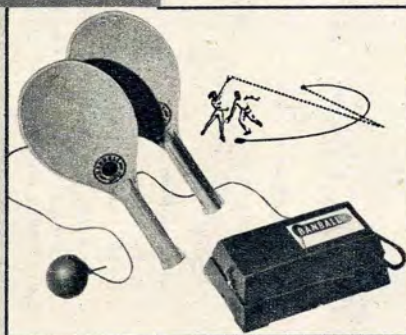
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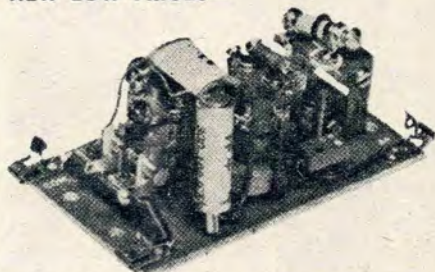
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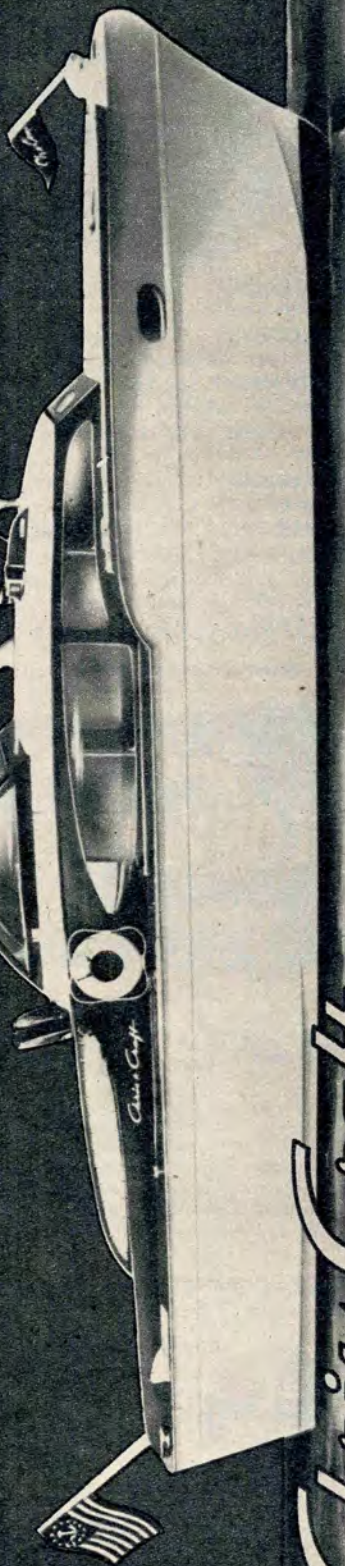
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Actual photo of Vacuum Formed Plastic Hull as Packaged in Kit.

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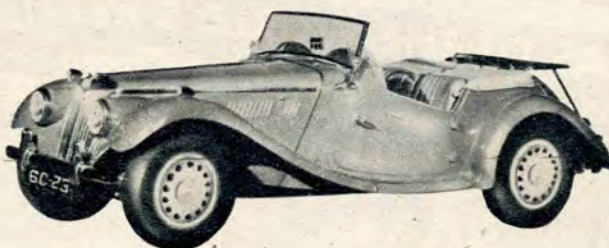
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(Continued from page 89)

In October, the Decatur Club held the free-flight meet; in November the Buckhead Club was host to all local speed flyers; in December the East Atlanta Flying Rebels holds a combat meet; and in January the Atlanta Team Race Club will stage a team race contest.

Heartfelt thanks to Pres. and Treas. Wasson, R. S. Davis, V. Pres. and W. B. Peaire, Sec. of the Ga. Congress of Model Airplane Clubs for their never-ending support to all the model clubs in this area.

The Decatur, Ga., Model Club really has the ball rolling. With a membership of approximately thirty boys from the ages of 11 and up, all active, this group has grown to be one of greater Atlanta's most respected clubs.

This is the only club in this area that faithfully holds a meet every month for its members. Because of the varied model interests within the club, each month a different type of meet is held.

Lloyd Wasson, owner of the Decatur Hobby Shop and officer in the club, is a very fine model builder and also great help to the younger modelers. Lloyd has a station wagon in which he carries a large group of flyers to all the meets held in the Southeast. We wonder how they get so many models and flyers packed into that one car.

W. V. McCane, president of the club, and Lloyd Wasson have been negotiating for a new flying field through the local civic clubs. They really plan to have a nice model flying center. At present they have room for only one circle with no provisions for flying speed. It is hoped these conditions will be improved within the near future.

Just a note to all model clubs in the Southeast. Remember fellows, this is your

column. I would like to write as much about your club and its activities as possible, but this cannot be done without your help and support. You must send me news if you want your club to be known.

Also, if you are reading this from some base overseas and you want something said about activities in the service, pass the news along and we'll get it in.

Since I am still confined at my home as a result of a stroke last May, I am indeed interested in hearing from any of you who read Southern Scenes. Drop me a letter and give me all your news. Let's make this Spring the best one in South-eastern history.

All you modelers in Alexander City, Ala., Albany and Macon, Ga., and Greenville, S.C., and other cities get busy and plan your spring meets and send me all your news. Send all correspondence to: R. H. Elliott, 1294 Eastridge Rd., S.W., Atlanta, Ga.

Readers Write

(Continued from page 13)

Cleveland Indoor Meet for January . . . Harry McCall, the modelists here and I were quite elated with the nice things in Air Trails Hobbies about indoor flying in Cleveland. Now I wish you could squeeze a few lines into the next issue or two about our coming Indoor Air Meet.

The date is January 2, 1955, in Cleveland Public Auditorium—90 foot ceiling, no obstructions. (A little drafty—make Mike jobs husky.) Events are for hand-launched gliders; "pre-fab," the Top Flite Jig Times and Cleveland "Quickys"; paper covered and microfilm duration jobs. There are SIX age divisions. The contest starts at noon on Jan. 2, ends at 6 p.m. There's no entry fee and everybody is welcome from anywhere. It's the same pattern we've used so successfully three years in a row. Sponsors are Cleveland Coca-Cola Bottling Co., The Press and City Recreation Division of Cleveland. AMA sanctioned, natch.

—Charles Tracy, Cleveland Press

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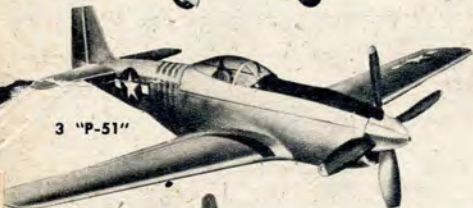
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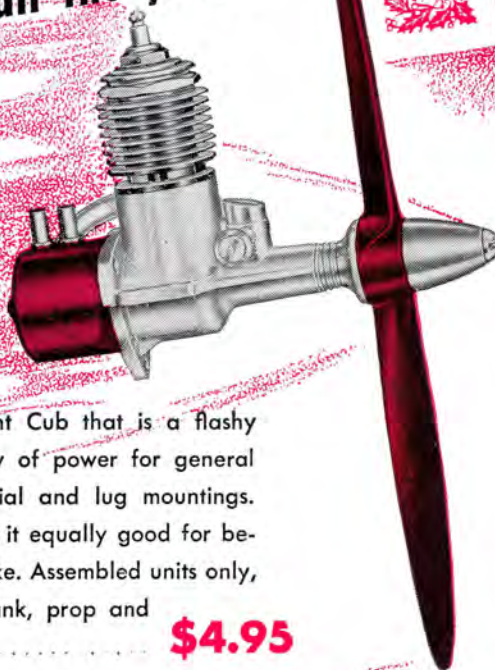
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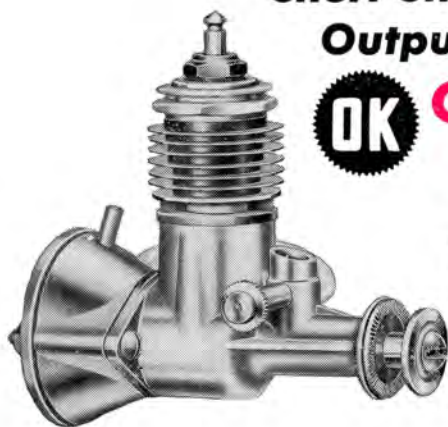


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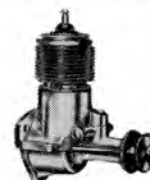
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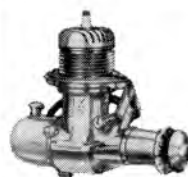
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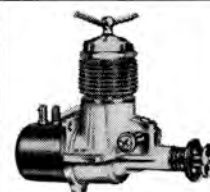
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